

***Data Quality Assessment Report
for the Post-Decontamination
Characterization of the Ancillary
Equipment Associated with Tanks
WM-182 and WM-183 at the Idaho
Nuclear Technology and
Engineering Center Tank Farm
Facility***

July 2004

*Idaho National Engineering and Environmental Laboratory
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Engineering Center Tank Farm Facility**

July 2004

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ABSTRACT

This report documents the data assessment from samples collected during the cleaning of ancillary equipment (vault sumps, diversion valve boxes, cooling coils, and process waste transfer lines) associated with Tanks WM-182 and WM-183 at the Idaho National Engineering and Environmental Laboratory Idaho Nuclear Technology and Engineering Center Tank Farm Facility. The data assessed in this report were generated from the sample analysis of liquids collected following decontamination. Because the samples collected contained less than 15% solids by volume, solids were not analyzed. The data were assessed to determine whether the concentrations of regulated constituents were reduced below the action levels necessary for clean closure. Radionuclide data were compared with an established inventory. The analysis shows all radionuclide activities are less than the inventory values modeled in the performance assessment. The analysis also shows that clean closure action levels were achieved for the chemical constituents in the ancillary equipment. Based on the data analysis, decisions associated with these data can be made with a high degree of confidence.

FOREWORD

Ancillary equipment associated with Tanks WM-182 and WM-183 at the Idaho National Engineering and Environmental Laboratory Idaho Nuclear Technology and Engineering Center Tank Farm Facility includes vault sumps, diversion valve boxes, cooling coils, and process waste transfer lines. The sampling and analysis were performed following decontamination as part of the Resource Conservation and Recovery Act (RCRA) clean closure and Department of Energy (DOE) high-level waste tank closure activities underway at the Idaho Nuclear Technology and Engineering Center Tank Farm Facility. The data were compared to three criteria:

- For RCRA clean closure, the data were assessed to determine whether the concentrations of RCRA-regulated constituents were reduced to levels below the action levels specified for clean closure in *Idaho Hazardous Waste Management Act/Resource Conservation and Recovery Act Closure Plan for Idaho Nuclear Technology and Engineering Center Tanks WM-182 and WM-183* (DOE-ID 2003a). This analysis indicates clean closure action levels were not exceeded in ancillary equipment associated with Tanks WM-182 and WM-183. Because the samples collected contained less than 15% solids by volume, solids were not analyzed.
- For DOE high-level waste tank closure, the radionuclide data were compared with the radionuclide concentrations that were used in the *Performance Assessment for the Tank Farm Facility at the Idaho National Engineering and Environmental Laboratory* (DOE-ID 2003b). These values were based on sampling data and predicted values from the ORIGEN numerical model. This model is used to predict the radionuclides and relative values in waste streams. An inventory of radionuclides that remains in the tanks after decontamination was prepared for the performance assessment and is used in this document as an indicator of compliance with DOE radionuclide performance objectives.
- The data collected from sampling the post-decontamination, residual liquids from ancillary equipment associated with Tanks WM-182 and WM-183 were assessed against the criteria for data quality specified in the *Sampling and Analysis Plan for the Post-Decontamination Characterization of the Process Waste Lines from INTEC Tank Farm Facility Tanks WM-182 and WM-183* (INEEL 2001) or the *Sampling and Analysis Plan for the Post-Decontamination Characterization of the WM-182 and WM-183 Tank Residuals* (INEEL 2002), as appropriate.

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ACRONYMS

AL	action level
ANOVA	analysis of variance
CAS	Chemical Abstract Service
CV	coefficient of variation
<i>df</i>	degree of freedom
DOE	Department of Energy
DQA	data quality assessment
DQO	data quality objective
HWMA	Hazardous Waste Management Act
ICP-MS	inductively coupled plasma-mass spectrometry
IQR	interquartile range
LCL	lower confidence limit
PA	performance assessment
PCBs	polychlorinated biphenyls
RCRA	Resource Conservation and Recovery Act
SAP	sampling and analysis plan
SVOC	semivolatile organic compound
TFF	Tank Farm Facility
UCL	upper confidence limit
USC	United States Code
VOC	volatile organic compound

Data Quality Assessment Report for the Post-Decontamination Characterization of the Ancillary Equipment Associated with Tanks WM-182 and WM-183 at the Idaho Nuclear Technology and Engineering Center Tank Farm Facility

1. INTRODUCTION

This report assesses the quality of data generated from liquid residuals collected following decontamination of the ancillary equipment associated with Tanks WM-182 and WM-183 at the Idaho Nuclear Technology and Engineering Center Tank Farm Facility (TFF). The purpose of this data quality assessment (DQA) report is to:

1. Verify that correct assumptions were made in the development of the data quality objectives (DQOs) about the variance of the sample population
2. Confirm that the number of samples collected was adequate
3. Compare the mean concentration (as represented by the upper confidence limit [UCL]) of Resource Conservation and Recovery Act (RCRA) constituents to approved action levels (ALs) listed in the closure plan (DOE-ID 2003a)
4. Compare the mean concentrations of radionuclides to the inventory prepared for the performance assessment (PA) (DOE-ID 2003b)
5. Determine if the data distribution is normal or log normal to justify the assumption of normality (normal distribution) in the DQOs.
6. Demonstrate the effectiveness of triple rinsing on sections of process waste lines.

In general, DQA provides a scientific and statistical evaluation of data to determine if the collected data are of the right type, quality, and quantity to support their intended use. The DQA process is designed around the key idea that data quality, as a concept, is only meaningful when it directly relates to the intended use of the data (EPA 2000a). Two primary questions can be answered using the DQA process:

1. Does the quality of the data permit decisions to be made with the desired degree of confidence?
2. How well can the sampling design be expected to perform over a wide range of possible outcomes? That is, can the sampling design strategy be expected to perform well in a similar study with the same degree of confidence even if the actual measurements are different than those obtained in the present study?

The first question addresses the immediate needs of the study. If the assessment shows that the data are of sufficient quality, then the decision-maker can make decisions using unambiguous data with the desired level of confidence (specified during data collection planning). However, if the data do not provide sufficiently strong evidence to support one decision over another, then appropriate data analysis can alert the decision-maker to the degree of ambiguity in the data. If this is the case, an informed

decision can be made about how to proceed. For example, based on the data obtained, more data may be collected or the decision-maker may make a decision knowing there is a greater-than-desirable uncertainty in the decision.

The second question addresses the potential future needs of the study. After the DQA is completed, personnel can determine how well the sampling design may perform at a different location given that different environmental conditions and outcomes may exist. Because environmental conditions vary from location to location, it is important to examine the sampling design over a large range of possible settings to ensure that the design will be adequate in other scenarios.

Evaluation of collected data, referred to as the data life cycle, consists of three steps: planning, implementation, and assessment. The planning phase consists of documenting the data needs and plans for data collection using the DQO process (EPA 2000b). The DQOs define the qualitative and quantitative criteria for specifying the sampling procedure and establish the desired level of confidence for decision-making. The DQOs for this project are documented in the associated sampling and analysis plans (SAPs) (INEEL 2001, 2002). The implementation phase consists of collecting the necessary data according to the SAP. Data assessment consists of both data validation (to make sure that all sampling and analysis protocols were followed) and the use of the validated data set (to determine if the data quality is satisfactory for making the decisions specified in the SAP).

The steps of the DQA process are:

1. Review the DQOs and sampling design
2. Conduct a preliminary data review
3. Select a statistical test
4. Verify the assumptions of the selected test
5. Draw conclusions from the data.

These steps are discussed in the following sections.

2. REVIEW OF THE DATA QUALITY OBJECTIVES AND SAMPLING DESIGN

The DQOs clearly define the principle questions to be addressed and develop the approach that will be taken to resolve the questions. The DQOs consist of developing a problem statement and a decision statement, defining the decision inputs, defining study boundaries, developing a decision rule, establishing decision error limits, and optimizing the design. Data quality objectives were developed for both the tanks and the ancillary equipment simultaneously. The original intent was to pool the samples obtained from the vault sumps and diversion valve boxes so that formal statistical tests could be performed on the data. However, investigation of the data shows that these samples come from separate populations and cannot be pooled together for analysis. Therefore, references to statistical analysis for the ancillary equipment pertain only to the cooling coil data. A separate SAP (INEEL 2001) was developed for the process waste lines. The purpose of sampling the process waste lines was to demonstrate the effectiveness of tripling rinsing on horizontal and vertical sections of the piping. The DQOs are summarized below and although methods and concepts remain intact, some wording was varied to incorporate the DQOs for the both the ancillary equipment and process waste lines. A summarization of the DQOs for both the ancillary equipment and the process waste lines follows.

1. Problem Statement: Demonstrate that tank decontamination activities have resulted in closure performance objectives being met.
2. Decision Statement: Determine if decontamination of the TFF tank systems has resulted in concentrations of constituents or properties (i.e., pH) of concern in the residuals remaining in the TFF system components being below closure performance standards; if not, further or alternative (as in the case of the process waste lines) decontamination may be necessary or the Hazardous Waste Management Act (HWMA) (State of Idaho 1983)/RCRA (42 United States Code [USC] 6901 et seq., 1976) landfill standards for closure must be met. Additionally, Department of Energy (DOE) requirements must be met to close the tanks in place.
3. Decision Inputs: Concentrations of hazardous constituents and radionuclides present in ancillary equipment after decontamination.
4. Study Boundaries:
 - a. Spatial Boundaries: Residual liquids collected from Tanks WM-182 and WM-183 ancillary equipment following decontamination. The ancillary equipment associated with Tanks WM-182 and WM-183 includes the vault sumps, the diversion valve box, the cooling coils inside each tank, and the process waste lines. The data assessed in this report were generated from the sample analysis of liquids that were collected following decontamination of the cited ancillary equipment. Since the samples collected contained less than 15% solids by volume, solids were not analyzed. No data from the sample analysis of residual liquids from the tanks are analyzed in this report. Data assessment of sample analysis of tank residuals has been provided in separate reports (INEEL 2004a, 2004b).
 - b. Temporal Boundaries: From the onset of decontamination to completion of decontamination. The length of time can vary between different units. Decisions made concerning achievement of closure performance standards will apply for a minimum of 100 years of DOE institutional control.
 - c. Scale of Decision-Making: The assumptions made in developing the PA (DOE-ID 2003b) will specify the scale of decision-making.

- d. Practical Constraints: It is not possible to obtain more than one sample from each of the sumps and the valve box because of the limited amount of residuals that can be obtained from these areas. Also, only one sample can be obtained from each section of the process waste lines that were analyzed.
5. Decision Rule: The parameter of interest is the mean concentration of the constituents of concern within the study boundaries. The decision rules are:
- a. *If* the true mean concentration of any applicable hazardous waste constituent detected from any piece of equipment is greater than or equal to the maximum concentration of contaminants for the toxicity characteristic listed in 40 *Code of Federal Regulations* 261.24 (2004), or *If* the true mean pH of TFF residuals collected from any individual piece of equipment exhibit the characteristic of corrosivity, *then* either additional decontamination steps will be undertaken or closure to HWMA/RCRA landfill standards will be considered. It is known that the cooling coils contained chromium as a corrosion inhibitor and that the contents of the cooling coils never came in contact with the tank waste. Therefore, only chromium is of interest in the cooling coil rinsates, and only chromium data from the analyses of the cooling coil rinsates were used in assessing whether or not TFF cooling coil residuals meet the HWMA/RCRA clean-closure action levels.
 - b. *If* the true mean concentration of any hazardous constituent detected in total constituent analyses of the TFF residuals collected from statistically similar populations (i.e., sample locations) is greater than the action level specified in the closure plan, *then* additional decontamination steps may be undertaken. Closure to HWMA/RCRA landfill standards will be considered at final closure of the TFF.
 - c. *If* the difference between the concentration of a metal constituent detected in analyses of the samples collected from the triple-rinsed process waste line and the concentration detected for the same constituent in the new unused (control) line is greater than the maximum concentration of contaminants for the toxicity characteristic listed, *then* additional decontamination measures will be considered.
 - d. *If* the concentrations of hazardous constituents indicate that the closure performance standards have been met, *then* the TFF will be closed under a HWMA/RCRA clean closure.
6. Decision Error Limits: The outputs for the decision error limits are the null and alternative hypotheses and a quantification of the allowable error rates. The null hypothesis is “The concentration of at least one hazardous or radioactive constituent in TFF residuals following decontamination is equal to or exceeds action levels.” Conversely, the alternative hypothesis is “The concentrations of all hazardous or radioactive constituents in TFF residuals following decontamination are less than the specified action levels.” The lower boundary of the gray region (Δ) is set at 80% of the AL for all constituents of concern. Using the stated null hypothesis, the upper boundary of the gray region is always the constituent-specific AL. For pH, the gray region is bounded on one side by 2.0 and 12.5 (the ALs) and on the other side by 2.1 and 12.4, respectively. In the case of acidic conditions (low pH), the “lower boundary” of the gray region is actually a pH value greater than the action limit because the “lower boundary” of the gray region is always in a direction away from the action limit that would result in rejection of the null hypothesis if the true mean value was equal to that value. That is, the gray region is that range of values where controlling false-negative decision error is deemed unimportant relative to the cost of controlling that error. The chance of a false-positive decision error (α) and the chance of a false-negative decision error (β) will both be set at 5%. Since the number of samples obtained from the sumps,

valve box, and process waste lines is too small to perform a statistical test, formal statistical hypothesis testing can be done only on the cooling coil data. Therefore, the above outputs apply only to the cooling coils since such a definition would be inappropriate for the other equipment covered in this report.

7. Design Optimization: A simple random sampling method was used to obtain samples. The standard deviation (σ) was estimated to be 10% of the AL. The validity of this assumption is assessed later in this DQA report. Given the chosen α , β , and Δ in conjunction with the estimated value for σ , a sample size (n) of 5 was selected using Equation (1):

$$n = \frac{(z_{1-\alpha} + z_{1-\beta})^2 \sigma^2}{\Delta^2} + \frac{1}{2} z_{1-\alpha}^2 \quad (1)$$

where

n	=	the appropriate number of samples to collect to satisfy the DQOs
z_x	=	the z value for the x^{th} quantile of the standard normal distribution (from statistical tables)
α	=	false-positive rate (5% or 0.05)
β	=	false-negative rate (5% or 0.05)
σ	=	estimated standard deviation of the population
Δ	=	minimum detectable difference (the difference between the AL and the value at which the decision-maker wants to specify a false-negative decision error rate; in this case, Δ is 20% of the constituent-specific AL).

Equation (2) shows the solution of this formula for the WM-182 and WM-183 cooling coils sampling and analysis activity:

$$n = \frac{(1.645 + 1.645)^2 (10)^2}{(20)^2} + \frac{1}{2} (1.645)^2 = 4.06 \quad (2)$$

Based on the results of Equation (2), five samples of liquids from the cooling coils following decontamination were collected for the applicable analyses. Sample size for the vault sumps, valve box, and the process waste lines was dictated by practical constraints, and one sample was obtained from each of the vault sumps and the valve box. Nine rinsate samples were taken from five sections of process waste line. Two samples were taken from each of four used sections and one sample was taken from an unused section of pipe to determine the contribution of metals from the pipe into the rinsate.

3. PRELIMINARY DATA REVIEW

The purpose of the preliminary data review is to examine the data using graphical methods and numerical summaries to gain familiarity with the data and achieve an understanding of the “structure” of the data. A preliminary data review should be performed whenever data are used, regardless of the purpose of the data. This type of examination allows the limitations of the data to be identified and the proper approach for data analysis to be determined. It is important to note that the cooling coil data are the only data of sufficient quantity to use the methods that follow. The vault sump and process waste line data are examined in tabular format rather because the following methods cannot be applied.

The two main approaches to a preliminary data review are: (1) calculation of basic statistical quantities (or summary statistics) and (2) graphical representations of the data. Appendixes A and B of this report provide the graphical representations of cooling coil data from Tanks WM-182 and WM-183. The calculated summary statistics will be discussed in this section, and the graphical review of the data will be discussed in Section 8 when the distribution of the cooling coil data is assessed.

The summary statistics calculated for the detected constituents from the WM-182 and WM-183 cooling coils provide information regarding the measures of center (mean and median) and measures of spread (standard deviation, coefficient of variation [CV], interquartile range [IQR], and range). One measure of primary interest is the center of the data. The average (\bar{x}), or the mean, is the most commonly used measure of the central tendency of the data. However, it can be heavily influenced by outliers and by asymmetric data. The mean is calculated using Equation (3):

$$\bar{x} = \frac{\sum_{i=1}^n x_i}{n} \quad (3)$$

where

\bar{x} = mean

n = number of observations

x_i = i^{th} observation.

The median is the preferred measure of the center of the data if outliers are present in the data or if the data are skewed. The median is the observation such that 50% of the data lie below the median and 50% of the data lie above the median. If the data are perfectly symmetric, the mean and the median will be equal to each other.

Another quantity of interest is the spread of the data. The standard deviation (s) is the most commonly used measure of spread. One reason for this is that it is fairly easy to interpret and is a key measure that is used in many other statistical methods. Because it is calculated using the average, it is also sensitive to outliers and to data that are not symmetric. The standard deviation is calculated using Equation (4):

$$s = \sqrt{\frac{\sum_{i=1}^n (x_i - \bar{x})^2}{n-1}} \quad (4)$$

where

s = standard deviation

n = number of observations

x_i = i^{th} observation

\bar{x} = mean of the observations.

The CV was also calculated for each detected analyte for which a sufficient number of samples for computation existed. The CV is a relative measure of variation. That is, it is a measure of the standard deviation relative to the mean, expressed as a percentage. This measure provides a way to more directly compare the standard deviations of two different data sets that may otherwise not be directly comparable. However, it is important to note that the mean of the data may be very close to zero or very far away from zero and the spread may be independent from the distance of the mean from zero. Therefore, no firm guidelines have been established for interpreting the CV. The formula for calculating the CV is:

$$CV = \frac{s}{\bar{x}} \times 100\% \quad (5)$$

where

s = standard deviation

\bar{x} = mean of the observations.

The IQR is a measure of spread that is not influenced by outliers. It is calculated by subtracting the first quartile from the third quartile. The first quartile is the 25th percentile of the data and the third quartile is the 75th percentile of the data. The IQR is a preferred measure of spread when extreme outliers exist in the data. Otherwise, the standard deviation is the preferred measure of spread.

The range, another measure of spread in the data, is calculated by subtracting the smallest value in the data from the largest value. It can be a valuable piece of information in characterizing the spread of the data but can be deceptively large if the data contain any outliers. Therefore, the data should always be examined for outliers when the range is used as a summary statistic.

The five-number summary was calculated for pH, chromium, and each of the detected radionuclides in the rinsates collected from the WM-182 and WM-183 cooling coils. The five-number summary is a presentation of the minimum value, the first quartile, the median, the third quartile, and the maximum value of the data. This summary provides non-parametric information about the general spread and pattern of the data.

It is difficult to read a table of numerical summary statistics and identify the degree of symmetry or normality of the data. Graphical representations of the data include boxplots and normal-quantile plots. Boxplots are a way of graphically viewing the five-number summary. The plot consists of a central box with a line or other mark inside of the box. Two lines come out of the ends of the box in either direction.

The line, or mark, inside the box represents the median, the edges of the box represent the two quartiles, and the extreme ends of the lines represent the largest and smallest observations within 1.5*IQR from the box, which represent the minimum and maximum values when the data set contains only five observations.

This type of plot allows for a quick and comprehensive analysis of the symmetry of the data. It can be easily determined if the data are symmetric, right-skewed, or left-skewed. Right-skewed data have a lengthened tail on the higher values of the distribution. This tail pulls the mean toward it, causing the mean to be high relative to the center of the data. This makes it more likely to declare that further decontamination is needed when, in fact, decontamination efforts have been sufficient. Left-skewed data have a lengthened tail on the lower values of the distribution. This tail pulls the mean toward it causing the mean to be lower than the center of the data. Left-skewed data will cause the UCL to be low-biased making it more likely to show the decontamination efforts have been successful for that analyte when, in fact, the concentration of that analyte exceeds the AL.

The normal-quantile plot is a plot that is used to determine if the data follow a normal distribution. If the data follow a normal distribution then the points on the graph will lie along a straight line. Any deviations from a straight line are indicative of deviations from normality. If the data veer away from the line at one end of the line or form a “U” shape, then the data are asymmetric. If the data veer away from the line at both ends in an “S” shape, then the tails of the distribution are either too heavy or too light to assume a normal distribution. A point that is far away from the other data at either end of the plot indicates there might be an outlier in the data. It is important to note that no real world data set is perfectly normal so a certain amount of deviation from the line is to be expected, even in data that are sufficiently normal for parametric statistical analysis.

A formal preliminary data analysis, as outlined above, was not performed on the data from the vault sumps, valve box, or the process waste lines because too few data points are available to perform the necessary calculations or to construct meaningful graphs. A formal preliminary data analysis was conducted for the WM-182 and WM-183 cooling coil data, and the graphical representations are shown in Appendixes A and B to aid the data user in assessing the symmetry and normality of the data collected.

Each type of analyte (i.e., metals, anions, organic constituents, pH, and radionuclides) is discussed separately in Sections 7 through 9, as applicable. The impact of laboratory performance on the data quality is discussed, and detected analytes are examined statistically.

4. STATISTICAL TEST SELECTION

Once the preliminary data review has been completed, an appropriate statistical hypothesis test may be selected to answer the question(s) for which the data were collected. Because each statistical hypothesis test requires the data to be of sufficient quality and quantity, the data are analyzed to determine whether the assumptions of the desired test(s) are met.

One of the primary requirements of many hypothesis tests is that the distribution of the sample mean follows a normal distribution. Tests that require the assumption of normality are generally more efficient than non-parametric tests (i.e., tests that do not require the data to follow a specific distribution). That is, a test that requires the sample mean to have a normal distribution can provide more accurate and reliable answers with fewer data points than a test that does not require the data to conform to a specific distribution. If the data have a normal distribution, then the sample mean will also have a normal distribution. Data not demonstrating a normal distribution can be transformed and used if the transformed data are normally distributed. However, if the data do not have a normal distribution and cannot be transformed to achieve normality, the sample mean may still have a normal distribution. The Central-Limit Theorem states that the distribution of the sample mean will be normal, regardless of the distribution of the data, if the sample size is sufficiently large. The more the data deviate from the normal distribution, the larger the sample size must be to ensure that the distribution of the sample mean is normal. Bootstrapping is a simulation technique that can be used to assess the distribution of the sample mean. If data are not normal in distribution and normality cannot be achieved through transformation, bootstrapping will be used to assess the distribution of the sample mean.

Non-parametric tests are most appropriate if the sample mean does not follow a normal distribution and an appropriate transformation cannot be found. Although they do not require the data to exhibit a normal distribution, most non-parametric hypothesis tests also have assumptions that must be met. One of the most common assumptions for a one-sample non-parametric test is that the data have a symmetric distribution. The assumptions of a selected hypothesis test, whether parametric or non-parametric, must be verified before the test is performed on the data.

The primary questions to be answered in relation to the post-decontamination contents of ancillary equipment for Tanks WM-182 and WM-183 are:

- Does the mean concentration of any constituent of concern exceed the specified AL or radionuclide inventory?
- Do the data support the assumptions of variance (standard deviation squared) and normal distribution?

The appropriate test to answer the first question compares the sample mean to a constituent-specific AL. Three primary tests are appropriate for answering this type of question: the one-sample *z*-test, Student's one-sample *t*-test, and the Wilcoxon signed rank test.

The *z*-test requires: (a) knowledge of the population standard deviation (σ), and (b) that the sample mean follows a normal distribution. Because the population standard deviation for each constituent concentration in the post-decontamination contents is not known, the *z*-test will not be considered further. The *t*-test allows the use of the sample standard deviation (s), which is an estimate of σ . The *t*-test also requires that the sample mean follows an approximate normal distribution. It is important to note that if the data follow a normal distribution, the sample mean will also have a normal distribution (as shown by the law of large numbers). However, if the data do not follow a normal distribution, the sample mean will still follow a normal distribution if the sample size is sufficiently large (as shown by the Central-Limit

Theorem). The Wilcoxon signed rank test is a non-parametric test that compares a sample mean to an AL but does not require the data to follow a normal distribution. The primary assumption for this test is that the data are symmetric. If the data are analyzed and found to be neither normally distributed nor symmetric, the data may be transformed. Data are transformed by performing the same operation on each data point (such as taking the natural logarithm of each observation). If the transformed data have a normal distribution or are symmetric, then the appropriate test can be performed on the transformed data. If the UCL of an analyte for which the data have been transformed is desired, it can be calculated using the transformed data. The AL can then be transformed using the same function and directly compared to the UCL within the transformed space. If an appropriate transformation cannot be found to achieve normality in the data, bootstrapping will be done to determine if the sample mean follows a normal distribution despite the non-normality of the data.

Because the *t*-test allows use of the sample standard deviation (*s*) and is a very powerful test for small data sets, the *t*-test was chosen as the most desirable means for testing the null hypothesis. After selecting a statistical test, it is necessary to verify the assumptions of the test selected. These assumptions are examined in Section 5.

5. VERIFICATION OF THE ASSUMPTIONS FOR THE SELECTED HYPOTHESIS TEST

This section examines the underlying assumptions of the statistical hypothesis test in light of the data collected. Both parametric and non-parametric tests require that the samples are independent of each other and this assumption should be verified if the sampling points were not able to be randomly selected. In addition, to select the appropriate test, the distributions of the data obtained for each analyte need to be evaluated. Parametric tests, which require the data to be normally distributed, can provide more accurate and reliable answers with fewer data points than non-parametric tests, and therefore, are the preferred tests. Consequently, it must first be determined if the data follow a normal distribution or if they can be transformed to follow a normal distribution. This is done using graphical methods such as histograms and normal-quantile plots. Statistical tests, such as the Shapiro-Wilk test or the χ^2 test for distributions can be used to determine if the data follow a normal distribution, but each has limitations. If the data set is large, even data that are very close to normal in distribution may not pass the test. With a small number of data points, it is difficult for distributional tests to detect deviations from normality in the data. However, the standard deviations for analytes in decontamination solutions from the WM-182 and WM-183 cooling coils are small compared to the ALs, and the observed concentrations are less than the ALs to such a degree that five samples are adequate for confidently declaring the ancillary equipment sufficiently clean for closure.

In the analysis of the rinsate data from the ancillary equipment associated with Tanks WM-182 and WM-183, graphical methods and the Shapiro-Wilk test were used to assess normality, where appropriate. Boxplots of the data were prepared using S-Plus 2000 (Insightful Corporation 2000). Analyse-It software (Analyse-It 2003) was used to perform the Shapiro-Wilk test calculations and to construct the normal-quantile plots. Because no more than five samples were taken from any system, histograms were not very informative. Normal-quantile plots were the primary graphical method used to evaluate whether the data exhibit a normal distribution. These plots are presented in Appendixes A and B of this report. The assessment of normality of the data is discussed in Section 7.

Since the primary objective of this DQA analysis is to determine if the mean concentration of a specified analyte is less than its associated AL, the following criteria have been developed in dealing with deviations from normality:

- If the Shapiro-Wilk test indicates that the data are normally distributed at the $\alpha = 0.05$ level and the summary statistics and plots indicate that the data are symmetric, then the *t*-test will be performed on the raw data.
- If the Shapiro-Wilk test conclusively shows that the data are normally distributed (the *p*-value is comfortably greater than 0.05), but the boxplot and other summary statistics indicate that the data might be right-skewed, then the raw data will be used for the *t*-test. However, if the data in this situation fail the Shapiro-Wilk test, a transformation that can make the data closer to normal in distribution will be sought and the test will be repeated.
- If the *p*-value for the Shapiro-Wilk test is close to or less than 0.05 and the data are left-skewed, then a transformation will be sought to bring the distribution into the acceptable range of normality.
- If the data are right-skewed and the *p*-value for the Shapiro-Wilk test is less than 0.05, indicating that the data are non-normal, then an appropriate transformation will be sought for the data.

- If an appropriate transformation cannot be found then the data will be analyzed on a case-by-case basis to determine if it appears that the AL has been exceeded. This will also be done if the data are left-skewed and a suitable transformation cannot be found.

The results of the Shapiro-Wilk test are reported for all of the reported results as well as for any successful transformations. Results for unsuccessful transformations are not reported because as many as 25 transformations were attempted for each analyte that exhibited non-normality. It is also important to note that the Wilcoxon signed rank test was not considered for data that exhibited non-normality because these data were also asymmetric. It is possible to determine how the type of asymmetry will affect a *t*-test, but it is not as clear how asymmetry will affect the results of the Wilcoxon signed rank test.

One of the primary assumptions for performing the *t*-test is that the samples are independent from the location from which they were collected. In the WM-182 and WM-183 vaults, one rinsate sample was collected for each of the four vault sums and the diversion valve box. It is important to determine whether the results obtained were independent of the location from which the sample was collected. The analysis of variance (ANOVA) test of equality of means is an appropriate statistical test for determining if a sample was independent of the sump or valve box from which it was taken.

The assumptions of the ANOVA test must also be verified for the sump and valve box data. The ANOVA test assumes that the residuals (the distance between the observed value and the value that the model predicted for that sample location) follow a normal distribution and are homoscedastic (the variance is the same for each of the risers). This assumption can be verified by constructing a residual plot. A residual plot is a scatter plot in which the *x*-coordinate is the observed data value and the *y*-coordinate is the residual associated with that value (residual = observed value – modeled value). The plot can also be done with the *x*-coordinate being the values modeled by ANOVA and the *y*-axis being the associated residual. If the residuals do not meet the ANOVA assumptions, a transformation of the data can be attempted to obtain data that do meet the assumptions. The results of the ANOVA test are reported in Section 6 along with the rest of the vault sump data.

Another assumption for use of the *t*-test that must be verified is that the standard deviation assumption was met. It was assumed that the standard deviation of all constituents and analytes of concern is 10% or less of the action level. This assumption will be discussed for the vault sums in Section 6 and verified for the cooling coils in Section 7.

6. IMPLEMENTATION OF THE STATISTICAL TEST

If the preliminary data analysis and the evaluation of test assumptions indicate that the *t*-test may be appropriately applied to determine if the mean concentration of any constituent of concern exceeds its specified AL, then the test will be applied to the data. It is important to note that distributional assumptions will only be addressed for the cooling coil data since none of the other equipment has data of sufficient quantity to assess distribution.

The DQOs for the study use a conservative statistic to estimate the population mean. Specifically, the decisions statements for the project specify, “*If* the true mean (as estimated by the 95% UCL of the sample mean) concentration of any hazardous constituent...” These decision statements allow a simple comparison of the 95% UCL of the mean to the AL to make decisions. The DQOs of the study also specify a desired rate for α of 5%. The confidence level for a UCL is equal to $(1 - \alpha)*100\%$. This means that 95% of all UCLs generated from all samples sizes of five will be less than the action limit if the mean concentration of the hazardous constituent in the tank is less than the AL. The 95% UCL can be thought of as an estimate of the largest probable value of the population mean given the observed information. The comparison of the 95% UCL to the AL is a way of performing the *t*-test.

The UCL of the sample mean is calculated using Equation (6):

$$UCL = \bar{x} + t_{1-\alpha, df}^* \frac{s}{\sqrt{n}} \quad (6)$$

where

\bar{x} = sample mean.

$t_{1-\alpha, df}^*$ = *t*-statistic for the confidence level, $(1 - \alpha)*100\%$, and degree of freedom, df . In this case, the confidence is $(1 - 0.05)*100\% = 95\%$ and the dfs are $n - 1 = 4$. From statistical tables, this corresponds to a value of 2.132 (or 2.776 for pH as explained below).

s = sample standard deviation.

n = number of samples taken.

The 95% LCL is also of importance to analyzing the pH. Because the pH has ALs for both high pH and low pH, it is necessary to determine if the pH is less than the LCL. Because both the LCL and the UCL are important, the *t*-value for the LCL and UCL will be determined with $\alpha/2$ instead of α to ensure that the total probability of a false-positive decision error occurring is α rather than $2*\alpha$. The LCL is compared to a pH of 2 to ensure that the true mean is greater than 2 at the specified degree of confidence. The LCL is calculated using Equation (7):

$$LCL = \bar{x} - t_{1-\alpha/2, df}^* \frac{s}{\sqrt{n}} \quad (7)$$

where

\bar{x} = sample mean.

$t_{1-\alpha/2, df}^*$ = t -statistic for degree of confidence, $(1 - \alpha/2)*100\%$, and degree of freedom, df . In this case, the confidence is $(1 - 0.025)*100\% = 95\%$ and the dfs are $n - 1 = 4$. Because the LCL and the UCL are being compared to an AL, $\alpha/2 = 0.025$ is used to determine the appropriate t -value. From statistical tables, this corresponds to a value of 2.776.

s = sample standard deviation.

n = number of samples taken.

The UCL is used to estimate the largest likely value of the population mean based on the observed data. The ALs and decisions about whether or not the ALs may have been exceeded for each of the detected constituents will be presented in the following sections. The LCL is also presented for pH to ensure that neither action level was exceeded.

No specific regulatory thresholds relative to the activity (i.e., concentrations) exist for the radionuclides left in any one tank after decontamination. Rather, the total inventory of radionuclides remaining in all closed components of the TFF will be evaluated following completion of the TFF decontamination efforts. The PA (DOE-ID 2003) conducted to address the DOE Order 435.1 (2001) closure requirements provides an estimate of acceptable radionuclide concentrations in the liquids remaining following decontamination. While these modeled levels are not the basis for a decision such as continuing with further decontamination, the modeled values required to meet DOE closure standards can be compared with the levels achieved through decontamination efforts. Because of this, hypothesis testing is not required to make decisions concerning whether decontamination may cease; however, hypothesis testing using the modeled value as the AL provides information on the decontamination effort for the radionuclides. Results for radionuclides are discussed in the following sections and comparisons with the PA modeled inventory (DOE-ID 2003) are provided.

7. SUMMARY OF DATA ANALYSIS FOR THE WM-182 AND WM-183 VAULT SUMPS AND C-6 DIVERSION VALVE BOX

This section provides the statistical analysis that was performed on the data associated with the WM-182 and WM-183 vault sums. One sample was collected from each of the four vault sums and one sample was collected from the C-6 diversion valve box, making a total of five samples collectively referred to as the vault sums.

The south sums (SR-19 and SR-21) were sampled first (CP10060701 and CP10061001). As the pumps were lowered from the surface, an I-beam prevented the sampling pumps to access the north sums (SR-18 and SR-20). Therefore, an alternative approach was presented to and approved by the State of Idaho Department of Environmental Quality. The north sums were overflowed, allowing the liquid to flow to the south sums across the vault floor. Then the sample was collected from the south sum (CP10060601 and CP10060901). Because the metals results were too high on CP10060901, the north sum was re-rinsed by overflowing more water to the south sum, and the south sum was sampled again (CP10062701) for metals only.

It was intended that the data be pooled together in order to compute a UCL that could be directly compared to the specified action levels. However, in order to compute a UCL, the data must be independent of the location from which it was sampled. That is, the rinsates collected from each of the vault sums and the C-6 valve box would have to be from the same population. This assumption must be verified prior to constructing a UCL. The ANOVA test is an appropriate statistical method for determining if the data are independent from the sampling location. If the *p*-value computed by the ANOVA test is less than 0.05, then it can be concluded that the samples are not independent of the location from which they are taken. Conversely, if *p*-value is greater than or equal to 0.05, it can be assumed that the information obtained from a sample is independent of the vault sum or valve box from which it was collected.

An ANOVA model was run separately for the metals data and the radionuclide data because the two types of analytes may perform differently in the sums. Data for anions and organic constituents were not analyzed due to an insufficient number of analytes present in levels above the detection limit. It was determined that the residuals for each of the ANOVA models followed a normal distribution. Therefore, it was possible to appropriately perform an ANOVA test on the standardized data for both metals and radionuclides. It is important to note that the data were standardized before performing the ANOVA test. Different analytes are expected to be present in very different concentrations. This renders the ANOVA test useless unless the data can be rescaled into directly comparable measurements while keeping the distribution of the different analytes perfectly intact. This is accomplished by standardizing the data (subtracting the corresponding mean from each value and then dividing by the standard deviation for that analyte). After standardization, each standardized analyte has a mean of zero and a standard deviation of one. The ANOVA results are presented below in Tables 1 and 2. It is important to note that Tables 1 and 2 are the traditional representation of an ANOVA test. The sums of squares and the mean square numbers are numbers used to calculate the *F*-statistic, the degrees of freedom and the *F*-statistic are used to determine the *p*-value. The *p*-value is the primary number of interest from an ANOVA table and will be the only number discussed.

The *p*-value is much smaller than 0.05 for both the metals and the radionuclides, indicating that the data are not independent from the vault sum or valve box from which it was taken. This means that the data cannot be pooled and must be treated as five samples from independent populations rather than five representative samples from the same population.

Table 1. Results of ANOVA test on the metals data from WM-182 and WM-183 vault sums.

Source of Variation	df	Sums of Squares	Mean Square	F-statistic	p-value
Sumps	4	14.745	3.686	5.63	0.0004
Residuals	100	65.418	0.654		
Total	104	80.162			

Table 2. Results of ANOVA test on the radionuclide data from WM-182 and WM-183 vault sums.

Source of Variation	df	Sums of Squares	Mean Square	F-statistic	p-value
Sumps	4	23.164	5.791	10.08	<0.0001
Residuals	85	48.836	0.575		
Total	89	72.000			

Because the data cannot be pooled together, the data are most appropriately analyzed in tabular format. The data are presented in two types of formats. First, the data for each sump will be present by analyte and with its associated action level so that the results between the sums can be compared to each other and to the action levels. The second type of table is in a similar format but shows the observed value expressed as a percent of the action level. The results are presented in pertinent subsections that follow. It is important to note that all constituents of concern were analyzed. However, only analytes that were detected in at least one of the five samples are presented in the following subsections. Also, all analytical data were validated in accordance with technical procedures, and data validation flags were assigned based on laboratory performance in quality control analyses. Data flagged during validation may still be useful for making project decisions. When appropriate, discrepancies in the quality control analyses that were noted in the validation process are addressed in the following subsections. All reported results and the corresponding validation flags for the WM-182 and WM-183 vault sums and C-6 valve box are provided in Appendix C.

7.1 Metals Results in the Vault Sumps

Metals data were validated in accordance with technical procedures, and data validation flags were assigned based on laboratory performance in quality control analyses (Portage 2003a, 2003b, 2003c). Reported results for barium, thallium, and nickel were flagged “U” (undetected) in several samples because the reported concentrations were considered to be indistinguishable from the levels detected in the corresponding laboratory blanks. All reported metals data and validation flags are shown in Appendix C.

Tables 3 and 4 present the metals data obtained from the vault sums. Table 3 presents the reported results and Table 4 presents the data as percentage of the action level.

It can be seen from Table 4 that each of the metals are considerably less than the associated action level (<34%) with the exception of mercury in Sump WM-183 SR-21. No discrepancies in the quality control analyses associated with the mercury results were noted in the validation that would cause the sample data for WM-183 SR-21 to be questionable (Portage 2003a, 2003b). Because no indication of a potential low bias was noted, the data demonstrate that closure standards were met. The observed mercury concentration for the south sump for Tank WM-183 was 95.63% of the action level. This is high enough to be of concern. However, this south sump was rinsed twice after this sample was taken. The north sump for Tank WM-183 was rinsed and overflowed into the south sump after the south sump sample was taken so that a sample could be retrieved. The observed value was 283% of the AL. Thus, the north sump was rewashed and resampled by overflowing the sump into the south sump once more. The observed value

was 70.63% of the AL. Therefore, the south sump was rinsed twice after the south sump sample was taken. The reported results for the north sump are actually a representation of the total mercury contained in both the north sump and the south sump at the final rinse since the rinsate passed through both sums. Therefore, it appears that the concentration of mercury in the north and south sums for Tank WM-183 is sufficiently below the action level. All other metals appear to be well below the AL.

7.2 Results for Anions in the Vault Sumps

In the validation of the anions data, results were rejected (“R”-flagged) based on laboratory performance in the serial dilution analyses (Portage 2003d, 2003e, 2003f, 2003g). Poor performance in the serial dilution analysis is likely associated with the sample matrix. Because results from the laboratory control sample analysis were within acceptance limits for both accuracy and precision, the impact to data usability of the serial dilution results was deemed to be minimal. Table 5 presents the anion data generated from the vault sums and compares them to the corresponding action level.

7.3 Results for Organics in the Vault Sumps

7.3.1 VOC Results

The volatile organic compound (VOC) data were validated in accordance with technical procedures and validation flags were assigned to reported results based on the laboratory performance on quality control analyses (Environmental Validation & Assessment Consultants, Inc. 2003a, 2003b, 2003c, 2003d). Because holding times were exceeded prior to the analysis of some samples, the validation flag “R” (rejected) was assigned to the undetected results. The overall impact for making project decisions was deemed minimal based on levels of VOCs measured in TFF sampling when compared to the action levels. Also, anomalies were encountered with the dilution analyses. The acetone concentrations from the initial analyses exceeded the associated calibration range. Therefore, the samples were diluted by a factor of 10, and the analyses were repeated. The concentrations from the dilution analyses for acetone were significantly lower than would be expected based on the initial, undiluted results. Although using data that exceed the calibration range is atypical, the undiluted sample results were deemed to be more reliable given the analytical anomalies encountered and are a far more conservative approach to using the data (Environmental Validation & Assessment Consultants, Inc. 2003d). The reported results from all the VOC analyses and the corresponding validation flags are shown in Appendix C.

Table 3. Comparison of the reported metals data for the WM-182 and WM-183 vault sums with the specified action levels.

Metal	CP10060601 ^a WM-182 SR-19 (µg/L)	CP10060701 WM-182 SR-19 (µg/L)	CP10060801 Valve Box C-6 (µg/L)	CP10061001 WM-183 SR-21 (µg/L)	CP10062701 ^b Rewash of WM-183 SR-21 (µg/L)	Action Level (µg/L)	Action Level Exceeded?
Aluminum	6.71E+01	1.52E+02	1.81E+03	1.36E+03	1.65E+03	3.1E+06	No
Antimony	ND	5.70E+00	1.08E+01	ND	ND	6.3E+04	No
Barium	5.6E+00	6.5E+00	2.64E+01	4.31E+01	ND	8.3E+04	No
Beryllium	ND	ND	1.0E-01	1.0E-01	ND	5.3E+03	No
Cadmium	ND	ND	3.70E+00	1.24E+02	2.03E+02	6.1E+02	No
Calcium	9.51E+03	8.27E+03	1.41E+04	1.28E+04	1.09E+04	NA	NA
Chromium	3.56E+01	3.22E+01	1.13E+02	3.61E+01	1.00E+01	9.0E+02	No
Cobalt	ND	ND	7.36E+01	1.0E+00	ND	7.7E+05	No
Copper	ND	1.3E+00	1.80E+02	3.6E+00	ND	6.0E+05	No
Iron	4.21E+02	2.24E+03	4.08E+03	2.18E+03	1.53E+02	1.7E+06	No
Lead	ND	ND	1.11E+03	4.35E+01	ND	4.0E+03	No
Magnesium	2.67E+03	2.11E+03	1.33E+03	1.46E+03	2.73E+03	NA	NA
Manganese	3.00E+00	1.03E+01	8.25E+01	3.61E+01	2.80E+01	4.9E+05	No
Mercury	1.15E+01	1.47E+01	8.00E+00	1.53E+02	1.13E+02	1.6E+02	No
Molybdenum	1.92E+01	1.60E+01	1.81E+01	2.19E+01	ND	NA	NA
Nickel	ND	ND	5.05E+01	ND	2.50E+01	4.40E+05	No
Potassium	2.87E+04	2.41E+04	1.87E+04	9.42E+03	1.53E+04	NA	NA
Silver	ND	ND	3.2E+00	ND	ND	3.0E+03	No
Sodium	3.11E+04	2.73E+04	1.08E+04	1.26E+04	2.25E+04	NA	NA
Vanadium	4.2E+00	3.6E+00	ND	3.5E+00	ND	2.6E+05	No
Zinc	1.80E+00	4.90E+00	1.40E+02	1.39E+01	3.00E+01	1.7E+06	No

a. CP10060601 was taken from SR-19 after water was added to SR-18 and overflowed to SR-19.

b. CP10062701 (rewash) was taken from SR-21 after water was added to SR-20 and overflowed to SR-21.

NA = Analyte has no action level.

ND = Analyte was not detected.

Table 4. Reported metals data from the vault sums expressed as a percentage of the action level (i.e., observed value/action level).

Metal	CP10060601 ^a WM-182 SR-19	CP10060701 WM-182 SR-19	CP10060801 Valve Box C-6	CP10061001 WM-183 SR-21	CP10062701 ^b Rewash WM-183 SR-21	Action Level ($\mu\text{g/L}$)
Aluminum	0.00%	0.00%	0.06%	0.04%	0.05%	3.1E+06
Antimony	ND	0.01%	0.02%	ND	ND	6.3E+04
Barium	0.01%	0.01%	0.03%	0.05%	ND	8.3E+04
Beryllium	ND	ND	0.00%	0.00%	ND	5.3E+03
Cadmium	ND	ND	0.61%	20.33%	33.28%	6.1E+02
Chromium	3.96%	3.58%	12.56%	4.01%	1.11%	9.0E+02
Cobalt	ND	ND	0.01%	0.00%	ND	7.7E+05
Copper	ND	0.00%	0.03%	0.00%	ND	6.0E+05
Iron	0.02%	0.13%	0.24%	0.13%	0.01%	1.7E+06
Lead	ND	ND	27.75%	1.09%	ND	4.0E+03
Manganese	0.00%	0.00%	0.02%	0.01%	0.01%	4.9E+05
Mercury	7.19%	9.19%	5.00%	95.63%	70.63%	1.6E+02
Nickel	ND	ND	0.01%	ND	0.01%	4.4E+05
Silver	ND	ND	0.11%	ND	ND	3.0E+03
Vanadium	0.00%	0.00%	ND	0.00%	ND	2.6E+05
Zinc	0.00%	0.00%	0.01%	0.00%	0.00%	1.7E+06

a. CP10060601 was taken from SR-19 after water was added to SR-18 and overflowed to SR-19.

b. CP10062701 (rewash) was taken from SR-21 after water was added to SR-20 and overflowed to SR-21.

ND = Analyte was not detected.

Table 5. Comparison of the anion data obtained from the vault sums with the specified action levels.

Anion	CP10060601 ^a WM-182 SR-19 (mg/L)	CP10060701 WM-182 SR-19 (mg/L)	CP10060801 Valve Box C-6 (mg/L)	CP10060901 ^b WM-183 SR-21 (mg/L)	CP10061001 WM-183 SR-21 (mg/L)	Action Level (mg/L)	Action Level Exceeded?
Chloride	1.1	1	2.8	7	1	NA	NA
Fluoride	0.95	2.6	4.5	42.9	2.8	7.7E+02	No
Nitrate (mg-N/L)	2.5	2	3.2	33.5	2.1	NA	NA
Phosphate (mg-P/L)	0.87	0.7	0.08	0.08	0.66	NA	NA
Sulfate	10.2	9.2	6.1	64.8	9.2	NA	NA

a. CP10060601 was taken from SR-19 after water was added to SR-18 and overflowed to SR-19.

b. CP10060901 was taken from SR-21 after water was added to SR-20 and overflowed to SR-21.

NA = Analyte has no action level.

Tables 6 and 7 provide a comparison between the reported VOC results and the corresponding action limits. It can be seen from the data that each of the VOC observations are well below the action levels. The highest observed value, as expressed as a percentage of its action level, is acetone in Valve Box C-6 with a percent of 1.02%. It appears that the vault sumps have met closure standards with respect to VOCs.

7.3.2 SVOC and PCB Results

Data for semivolatile organic compound (SVOC) and polychlorinated biphenyl (PCB) analyses were validated in accordance with technical procedures and validation flags were assigned based on the laboratory performance in the associated quality control analyses. Minor issues were noted to warrant “J”-flags (estimated) to be assigned to associated sample results (Environmental Validation & Assessment Consultants, Inc. 2003e, 2003f). However, no PCBs were detected and the impact to data usability is minimal.

In the semivolatile analyses, minor quality control issues were identified and a “J”-flag (estimated) was assigned to associated sample results (Environmental Validation & Assessment Consultants, Inc. 2003g, 2003h). In these cases, the impact to data usability is minimal. The data validation flag “R” (rejected) was assigned to the undetected results for acid fraction compounds reported for one sample (CP10060801SV; Valve Box C-6) to denote a potential low bias reflected in low surrogate recovery results (Environmental Validation & Assessment Consultants 2003h). The detected compounds and reported concentrations utilized in this DQA are comparable to results from other SVOC analyses associated with closure of the TFF. Additionally, a potential low bias of an order of magnitude was previously investigated (Jason Associates 2004; Stanisich 2004) due to similar analytical anomalies with the acid fraction compounds. The conservative assumptions used in that investigation showed that action levels were met and the data were adequate to support closure. Applying the same rationale to the WM-182 and WM-183 ancillary equipment data supports using data with a potential low bias of an order of magnitude. The acid fraction compounds included in the matrix spike/matrix spike duplicate and the laboratory QC check sample analyses all had recoveries within specified limits. Because the acid fraction compounds were detected in these analyses, it is reasonable that these compounds would also have been detected at similar concentrations in the samples. The SVOC data generated for WM-182 and WM-183 vault sumps can be used to generate reasonable, conservative assumptions. Because the data derived from the conservative assumptions still meet the ALs, the analytical data generated were considered adequate for use in this DQA.

The only detected SVOC constituent of concern was phenol. It was only detected in Vault Sump WM-183 SR-21. The observed value was much smaller than the associated action level (0.00005% of the AL). The SVOC data are presented in Tables 8 and 9. It appears that the vault sumps have met closure criteria with respect to SVOCs.

Table 6. Comparison of the VOC data obtained from the vault sums with the specified action levels.

VOCs	CP10060601 ^a WM-182 SR-19 (µg/L)	CP10060701 WM-182 SR-19 (µg/L)	CP10060801 Valve Box C-6 (µg/L)	CP10060901 ^b WM-183 SR-21 (µg/L)	CP10061001 WM-183 SR-21 (µg/L)	Action Level (µg/L)	Action Level Exceeded?
Acetone	ND	1360	10,100	ND	295	9.9E+05	No
Cyclohexane	ND	3.9	ND	4.3	ND	7.5E+06	No
Cyclohexanone	ND	ND	3.7	ND	ND	7.0E+06	No
2-Hexanone	ND	ND	7.6	ND	ND	6.3E+05	No

a. CP10060601 was taken from SR-19 after water was added to SR-18 and overflowed to SR-19.

b. CP10060901 was taken from SR-21 after water was added to SR-20 and overflowed to SR-21.

ND = Analyte was not detected.

Table 7. Reported VOC data from the vault sums expressed as a percentage of the action level (i.e., observed value/action level).

VOCs	CP10060601 ^a WM-182 SR-19	CP10060701 WM-182 SR-19	CP10060801 Valve Box C-6	CP10060901 ^b WM-183 SR-21	CP10061001 WM-183 SR-21	Action Level (µg/L)
Acetone	ND	0.14%	1.02%	ND	0.03%	9.9E+05
Cyclohexane	ND	0.00%	ND	0.00%	ND	7.5E+06
Cyclohexanone	ND	ND	0.00%	ND	ND	7.0E+06
2-Hexanone	ND	ND	0.00%	ND	ND	6.3E+05

a. CP10060601 was taken from SR-19 after water was added to SR-18 and overflowed to SR-19.

b. CP10060901 was taken from SR-21 after water was added to SR-20 and overflowed to SR-21.

ND = Analyte was not detected.

Table 8. Comparison of the reported SVOC data obtained from the vault sums with the specified action levels.

SVOCs	CP10060601 ^a WM-182 SR-19 (µg/L)	CP10060701 WM-182 SR-19 (µg/L)	CP10060801 Valve Box C-6 (µg/L)	CP10060901 ^b WM- 183 SR-21 (µg/L)	CP10061001 WM-183 SR-21 (µg/L)	Action Level (µg/L)	Action Level Exceeded?
Phenol	ND	ND	ND	ND	1.2	2.40E+06	No
tri-n-butyl phosphate	ND	ND	2.3	ND	ND	NA	NA
2-nitrophenol	ND	ND	1.0	ND	ND	NA	NA

a. CP10060601 was taken from SR-19 after water was added to SR-18 and overflowed to SR-19.

b. CP10060901 was taken from SR-21 after water was added to SR-20 and overflowed to SR-21.

NA = This analyte has no action.

ND = Analyte was not detected.

Table 9. Reported SVOC data from the vault sums expressed as a percentage of the action level (i.e., observed value/action level).

SVOCs	CP10060601 ^a WM-182 SR-19	CP10060701 WM-182 SR-19	CP10060801 Valve Box C-6	CP10060901 ^b WM-183 SR-21	CP10061001 WM-183 SR-21	Action Level (µg/L)
Phenol	ND	ND	ND	ND	0.00%	2.40E+06

a. CP10060601 was taken from SR-19 after water was added to SR-18 and overflowed to SR-19.

b. CP10060901 was taken from SR-21 after water was added to SR-20 and overflowed to SR-21.

ND = Analyte was not detected.

7.4 Results for pH in the Vault Sumps

The pH of the post-decontamination residuals collected from the WM-182 and WM-183 vault sumps was also measured. The data for pH were validated according to technical procedures, and no issues with any applicable quality control criteria were identified (Portage Environmental, Inc. 2004a). This subsection contains the preliminary data analysis, test assumption verification, and the implementation of the statistical test for pH.

Table 10 shows the results reported for pH and the associated action levels. Laboratory results and associated validation flags for pH data presented in this DQA are listed in Appendix C. It can be seen from the results that pH values have not exceeded the action levels.

Table 10. Comparison of the pH data obtained from the vault sumps with the specified action levels.

Analyte	CP10060601 ^a WM-182 SR-19	CP10060701 WM-182 SR-19	CP10060801 Valve Box C-6	CP10060901 ^b WM-183 SR-21	CP10061001 WM-183 SR-21	Lower Action Level	Upper Action Level	Action Level Exceeded?
pH	8.3	8.4	8.6	5.3	6.3	2.0	12.5	No

a. CP10060601 was taken from SR-19 after water was added to SR-18 and overflowed to SR-19.

b. CP10060901 was taken from SR-21 after water was added to SR-20 and overflowed to SR-21.

7.5 Results for Radionuclides in the Vault Sumps

The data for radionuclide analyses were validated in accordance with technical procedures, and validation flags were assigned to sample results based on the established quality control criteria. In the validation of radionuclide data, minor issues were noted (Portage 2003h, 2003i, 2003j) and “J”-flags (estimated) were assigned to various sample results. The data are considered to be of high quality and the impact to the data usability to be minimal. All reported results and the corresponding validation flags are shown in Appendix C. Results for radionuclides are presented in Tables 11 and 12. All radionuclides are present in concentrations that are below the inventory level.

Table 11. Comparison of the radionuclide data obtained from the vault sumps with the specified inventory levels.

Radionuclide	CP10060601 ^a WM-182 SR-19 (pCi/L)	CP10060701 WM-182 SR-19 (pCi/L)	CP10060801 Valve Box C-6 (pCi/L)	CP10060901 ^b WM-183 SR-21 (pCi/L)	CP10061001 WM-183 SR-21 (pCi/L)	Inventory Level (pCi/L)	Inventory Level Exceeded?
²⁴¹ Am	1.06E+02	1.35E+02	6.81E+03	4.83E+03	6.62E+04	3.60E+07	No
¹⁴ C	ND	ND	1.81E+01	ND	1.69E+01	9.90E+07	No
²⁴² Cm	ND	ND	ND	ND	3.61E+01	3.67E+04	No
²⁴⁴ Cm	ND	ND	3.99E+02	1.10E+02	1.35E+03	3.21E+06	No
⁶⁰ Co	ND	ND	ND	8.66E+04	5.56E+04	1.40E+07	No
¹³⁴ Cs	ND	ND	8.41E+03	3.80E+05	1.21E+05	1.21E+06	No
¹³⁷ Cs	2.04E+07	1.75E+07	4.82E+07	7.32E+08	2.04E+08	1.15E+11	No
¹⁵⁴ Eu	ND	ND	5.79E+04	ND	4.44E+05	1.83E+08	No
³ H	1.23E+04	9.87E+03	1.37E+03	5.66E+04	8.09E+03	1.61E+07	No
¹²⁹ I	6.91E+01	7.00E+01	1.01E+02	4.88E+02	9.76E+01	7.44E+04	No
⁹⁴ Nb	ND	ND	ND	ND	2.61E+04	3.44E+06	No
⁶³ Ni	1.35E+03	1.14E+03	8.46E+02	1.26E+05	1.72E+04	8.70E+07	No
²³⁷ Np	1.01E+03	ND	ND	1.01E+00	2.20E+02	3.43E+05	No
²³⁸ Pu	1.31E+03	8.24E+02	1.18E+05	7.61E+05	1.05E+06	5.70E+08	No
²³⁹ Pu	2.24E+02	7.80E+01	3.04E+03	9.42E+03	1.74E+04	7.05E+07	No
²⁴¹ Pu	ND	ND	ND	1.06E+05	ND	4.24E+08	No
Total-Sr	1.44E+07	1.53E+07	9.62E+07	5.01E+07	9.40E+06	8.15E+10	No
²³⁴ U	1.38E+03	8.98E+02	ND	2.30E+03	6.23E+02	2.52E+06	No
²³⁵ U	ND	4.68E+01	ND	ND	ND	1.20E+04	No

a. CP10060601 was taken from SR-19 after water was added to SR-18 and overflowed to SR-19.

b. CP10060901 was taken from SR-21 after water was added to SR-20 and overflowed to SR-21.

ND = Radionuclide was not detected.

Table 12. Reported radionuclide data from the vault sums expressed as a percentage of the inventory level (i.e., observed value/inventory level).

Radionuclide	CP10060601 ^a WM-182 SR-19	CP10060701 WM-182 SR-19	CP10060801 Valve Box C-6	CP10060901 ^b WM-183 SR-21	CP10061001 WM-183 SR-21	Inventory Level (pCi/L)
²⁴¹ Am	0.00%	0.00%	0.02%	0.01%	0.18%	3.60E+07
¹⁴ C	ND	ND	0.00%	ND	0.00%	9.90E+07
²⁴² Cm	ND	ND	ND	ND	0.10%	3.67E+04
²⁴⁴ Cm	ND	ND	0.01%	0.00%	0.04%	3.21E+06
⁶⁰ Co	ND	ND	ND	0.62%	0.40%	1.40E+07
¹³⁴ Cs	ND	ND	0.70%	31.40%	10.00%	1.21E+06
¹³⁷ Cs	0.02%	0.02%	0.04%	0.64%	0.18%	1.15E+11
¹⁵⁴ Eu	ND	ND	0.03%	ND	0.24%	1.83E+08
³ H	0.08%	0.06%	0.01%	0.35%	0.05%	1.61E+07
¹²⁹ I	0.09%	0.09%	0.14%	0.66%	0.13%	7.44E+04
⁹⁴ Nb	ND	ND	ND	ND	0.76%	3.44E+06
⁶³ Ni	0.00%	0.00%	0.00%	0.14%	0.02%	8.70E+07
²³⁷ Np	0.29%	ND	ND	0.00%	0.06%	3.43E+05
²³⁸ Pu	0.00%	0.00%	0.02%	0.13%	0.18%	5.70E+08
²³⁹ Pu	0.00%	0.00%	0.00%	0.01%	0.02%	7.05E+07
²⁴¹ Pu	ND	ND	ND	0.03%	ND	4.24E+08
Total-Sr	0.02%	0.02%	0.12%	0.06%	0.01%	8.15E+10
²³⁴ U	0.05%	0.04%	ND	0.09%	0.02%	2.52E+06
²³⁵ U	ND	0.39%	ND	ND	ND	1.20E+04

a. CP10060601 was taken from SR-19 after water was added to SR-18 and overflowed to SR-19.

b. CP10060901 was taken from SR-21 after water was added to SR-20 and overflowed to SR-21.

ND = Radionuclide not detected.

8. SUMMARY OF DATA ANALYSIS FOR WM-182 AND WM-183 COOLING COILS

Five rinsate samples each from the WM-182 and WM-183 cooling coils were collected and analyzed, and each data set was analyzed. The rinsate samples from the WM-182 and WM-183 cooling coils were analyzed for chromium, pH, and gamma-emitting radionuclides. Chromium is the metal of interest for HWMA/RCRA clean closure because of its known use as a corrosion inhibitor. All analytical data were validated according to technical procedures. No discrepancies with the laboratory quality control analyses which would have a negative impact on the data usability were noted (Portage Environmental, Inc. 2004a, 2004b, 2004c, 2004d, 2004e, 2004f). Results from the Tank WM-182 cooling coils are presented in Subsection 7.1 and the data from the cooling coils from Tank WM-183 are provided in Subsection 7.2.

8.1 Data Summary of Samples from Tank WM-182 Cooling Coils

A total of five samples were obtained from the cooling coils associated with Tank WM-182. Samples were analyzed for chromium, pH, and gamma-emitting radionuclides. Chromium and ^{137}Cs were detected in the rinsates collected from the WM-182 cooling coils. Chromium is addressed in the following subsections. Because ^{137}Cs was detected in only one of the five samples, statistical analysis could not be performed for this radionuclide.

However, the detected value for ^{137}Cs was 22.1 pCi/L and the inventory level is 1.15×10^{11} pCi/L. Therefore, it can be confidently assumed that levels of ^{137}Cs are well below the modeled inventory level.

8.1.1 Analysis of Metals in the Rinsate from Tank WM-182 Cooling Coils

8.1.1.1 Preliminary Data Analysis for the Metals. The preliminary data analysis consists of several statistical quantities of interest and the five-number summary for the metals. The measures of central tendency and spread for chromium are listed in Table 13. Table 14 provides the five-number summary for chromium. The boxplot for chromium (see Appendix A) appears to be slightly left-skewed; however, examination of the normal-quantile plot shows that the asymmetry in chromium is not very pronounced. The degree of this asymmetry will be discussed further in the following subsections when the normality of the data is assessed. Laboratory results and associated validation flags for WM-182 cooling coil data are presented in Appendix D.

Table 13. Measures of central tendency and spread for metals in the rinsates from the cooling coils associated with Tank WM-182.

Analyte	Mean ($\mu\text{g}/\text{L}$)	Median ($\mu\text{g}/\text{L}$)	Standard Deviation ($\mu\text{g}/\text{L}$)	Coefficient of Variation (%)	Interquartile Range ($\mu\text{g}/\text{L}$)	Range ($\mu\text{g}/\text{L}$)
Chromium	193	195	52.8	27.31	86.0	120

Table 14. Five-number summary for metals in the rinsates from the cooling coils associated with Tank WM-182.

Analyte	Minimum Value ($\mu\text{g}/\text{L}$)	First Quartile ($\mu\text{g}/\text{L}$)	Median ($\mu\text{g}/\text{L}$)	Third Quartile ($\mu\text{g}/\text{L}$)	Maximum Value ($\mu\text{g}/\text{L}$)
Chromium	125	158	195	244	245

8.1.1.2 Verification of Statistical Test Assumptions for the Metals Data. Two of the primary assumptions made for performing the one-sample *t*-test with the desired degree of confidence are that the sample mean follows a normal distribution and that the standard deviation is less than 10% of the action level. Detected metals data were analyzed using normal-quantile plots and the Shapiro-Wilk test to assess the normality of the data. The results of the Shapiro-Wilk test show that even though the boxplot for chromium indicates that the data may be asymmetric, the data are sufficiently normal to perform a *t*-test on the chromium data. Table 15 contains the results of the Shapiro-Wilk test for the chromium. Because the calculated *p*-value for chromium is greater than 0.05, it can be assumed that the underlying data set exhibits a normal distribution for metals constituents. The assumption that the standard deviation was less than 10% of the action level was made in order to determine the appropriate sample size. The results listed in Table 16 verify that this assumption was met. Therefore, a *t*-test will be used on the reported results for chromium with 95% confidence.

Table 15. Results of the Shapiro-Wilk test for metals in the rinsates from the cooling coils associated with Tank WM-182.

Analyte	Coefficient	<i>p</i> -value	Non-normal?
Chromium	0.9055	0.4411	No

Table 16. Verification of the standard deviation assumption for metals in the rinsates from the cooling coils associated with Tank WM-182.

Analyte	Standard Deviation	Action Level	Percentage
	($\mu\text{g/L}$)	($\mu\text{g/L}$)	
Chromium	52.81	900	5.87%

8.1.1.3 Implementation of the Statistical Test for the Metals Data. Results from the previous subsections indicate that the *t*-test is an appropriate method for analyzing the metals data. It can be seen from the results listed in Table 17 that the chromium levels are far below the action level. Therefore, it can be seen that closure performance criteria have been met for all metals of concern in the rinsates from the cooling coils associated with Tank WM-182.

Table 17. Summary of post-decontamination concentrations of metal constituents in the rinsates from the cooling coils associated with Tank WM-182.

Constituent	Mean Concentration	95% UCL	Units	<i>t</i> -value	Action Level	Action Level Exceeded?
Chromium	193	244	$\mu\text{g/L}$	2.132	900	No

8.1.2 Analysis of pH in the Rinsate from Tank WM-182 Cooling Coils

8.1.2.1 Preliminary Data Analysis for pH. The preliminary data analysis consists of several statistical quantities of interest and the five-number summary for pH. Measures of central tendency and spread for pH are listed in Table 18. Table 19 provides the five-number summary for pH. The boxplot and normal-quantile plot for pH (see Appendix A) appears to be right-skewed. The degree of this asymmetry will be discussed further in the following subsections when the normality of the data is assessed. Laboratory results and associated validation flags for pH data for WM-182 cooling coils are listed in Appendix D.

Table 18. Measures of central tendency and spread for the pH of the rinsate from the cooling coils associated with Tank WM-182.

Analyte	Mean	Median	Standard Deviation	Coefficient of Variation (%)	Interquartile Range	Range
pH	6.8	6.8	0.16	2.41	0.10	0.40

Table 19. Five-number summary for the pH of the rinsate from the cooling coils associated with Tank WM-182.

Analyte	Minimum Value	First Quartile	Median	Third Quartile	Maximum Value
pH	6.7	6.7	6.8	6.8	7.1

8.1.2.2 Verification of Statistical Test Assumptions for the pH Data. Two of the primary assumptions in performing the *t*-test on the pH data with 95% confidence are that the sample mean follows a normal distribution and that the standard deviation is no more than 10% of the action level. The pH data do pass the Shapiro-Wilk test, but with a *p*-value that is uncomfortably close to 0.05. Transformations for pH were unsuccessful. The *p*-value was able to be increased slightly, but not enough to make a notable improvement in normality of the data. This non-normality occurs partially because there are only three distinct values in the five measurements. Two of the samples measured at 6.7 and two others measured at 6.8. This makes the achievement of normality very difficult. Table 20 contains the results of the Shapiro-Wilk test for pH on both the raw data and the data transformation that produced the most significant increase in the *p*-value.

Since a successful transformation was not found for pH, bootstrapping was performed to assess the distribution of the sample mean. The histogram and normal-quantile plot for bootstrapping results can be found in Appendix A. It can be seen from the bootstrapping results that the mean has a very slight right-skew. This skew is so slight and the measured concentrations are so close to neutral (7.0) that the *t*-test should still be appropriate for the data. Because the difference between the *p*-value for the raw data and the *p*-value for the transformed data is very small and the bootstrapping results show that the distribution of the sample mean is very close to normal distribution, the *t*-test will be done on the untransformed pH data.

Table 21 contains the results of the standard deviation assumption. However, it is important to note that because a neutral pH is expressed by a value of 7.0 rather than 0, the absolute value of the difference between the action level and 7.0 was used for comparison. Therefore, the action level used to assess the standard deviation assumption is 5.0 rather than 2.0 or 12. It can be seen that the assumption that the standard deviation is no more than 10% of the action level was comfortably met. Therefore, a *t*-test can be performed on the pH data with the desired degree of confidence.

Table 20. Results of the Shapiro-Wilk test for the pH of the rinsates from the cooling coils associated with Tank WM-182.

Analyte	Coefficient	<i>p</i> -value	Non-normal?
pH	0.7787	0.0537	No
pH ($\ln[\ln(x)]$ transformation)	0.7848	0.0606	No

Table 21. Verification of the standard deviation assumption for the pH of the rinsates from the cooling coils associated with Tank WM-182.

Analyte	Standard Deviation	Action Level	Percentage
pH	0.16	5.0	3.29%

8.1.2.3 Implementation of the Statistical Test for the pH Data. Results from the previous subsections indicate that it is appropriate to perform the *t*-test on the pH data. It can be seen from the results listed in Table 22 that the pH level is not near either of the action levels. Therefore, it can be seen that closure performance criteria has been met for the pH of the rinsates from the cooling coils associated with Tank WM-182.

Table 22. Summary of post-decontamination measurements of the pH in the rinsates from the cooling coils associated with Tank WM-182.

Constituent	Mean Concentration	95% LCL	95% UCL	Lower Action Level	Upper Action Level	Action Level Exceeded?
pH	6.8	6.6	7.0	2.0	12.5	No

8.1.3 Conclusions

Five samples of the final decontamination rinsate were taken from the Tank WM-182 cooling coils. Samples were analyzed for constituents and properties (i.e., pH) of concern as well as gamma-emitting radionuclides. Very few analytes were detected. Chromium was the only constituent that was detected in a sufficient number of analytes to perform statistical analysis. All measurements were well below then action or inventory levels. Thus, it can be concluded that the closure performance criteria has been met with respect to the cooling coils for Tank WM-182.

8.2 Data Summary of Samples from Tank WM-183 Cooling Coils

A total of five samples were obtained from the cooling coils associated with Tank WM-183. Samples were analyzed for chromium, pH, and radionuclides.

Chromium was detected in the samples and is discussed in the following subsections. The only gamma-emitting radionuclide to be detected in the samples was ^{137}Cs . Because ^{137}Cs was detected in only three of the five samples that were collected, it is not possible to conduct a formal statistical test on this analyte. Therefore, plots will be constructed and the preliminary data review will be performed for this radionuclide; however, the Shapiro-Wilk test and the *t*-test will not be done on these data. The inventory level for ^{137}Cs is 1.15×10^{11} pCi/L and the highest detected value was 6.39 pCi/L so it can safely be concluded that the PA was not exceeded.

8.2.1 Analysis of Metals in the Rinsate from Tank WM-183 Cooling Coils

8.2.1.1 Preliminary Data Analysis for the Metals. The preliminary data analysis consists of several statistical quantities of interest and the five-number summary for the metals. The measures of central tendency and spread for chromium are listed in Table 23. Table 24 provides the five-number summary for chromium. The boxplot and normal-quantile plot show that the chromium data appear to be symmetric in distribution (see Appendix B). The symmetry of these data will be discussed further in the following subsections when the normality of the data is assessed. Laboratory results and associated validation flags for WM-183 cooling coils data are listed in Appendix E.

Table 23. Measures of central tendency and spread for metals in the rinsates from the cooling coils associated with Tank WM-183.

Analyte	Mean ($\mu\text{g/L}$)	Median ($\mu\text{g/L}$)	Standard Deviation ($\mu\text{g/L}$)	Coefficient of Variation (%)	Interquartile Range ($\mu\text{g/L}$)	Range ($\mu\text{g/L}$)
Chromium	325	342	136	41.92	98.0	370

Table 24. Five-number summary for metals in the rinsates from the cooling coils associated with Tank WM-183.

Analyte	Minimum Value ($\mu\text{g/L}$)	First Quartile ($\mu\text{g/L}$)	Median ($\mu\text{g/L}$)	Third Quartile ($\mu\text{g/L}$)	Maximum Value ($\mu\text{g/L}$)
Chromium	147	260	342	358	517

8.2.1.2 Verification of Statistical Test Assumptions for the Metals Data. Two of the primary assumptions in performing the *t*-test on the metals data with 95% confidence are that the sample mean follows a normal distribution and that the standard deviation is no more than 10% of the action level. Normality of the metals data was analyzed using normal-quantile plots and the Shapiro-Wilk test. The results of the Shapiro-Wilk test show that the data are sufficiently normal to perform a *t*-test. Table 25 contains the results of the Shapiro-Wilk test for the chromium. Because the calculated *p*-value for chromium is considerably greater than 0.05, it can be assumed that the underlying data set exhibits a normal distribution.

The results for the standard deviation assumption are presented in Table 26. It can be seen that the standard deviation assumption has not been met. This will affect the value of β , which is the chance of committing a false-negative error. It was assumed that $\beta = 0.05$. However, the increase in standard deviation will increase the chance of committing a false-negative error to 0.1894. This means there is an 18.94% chance of declaring the cooling coils contaminated with chromium when, in fact, they are sufficiently clean. Since only the chance of declaring a clean site dirty is affected by this increase in standard deviation decisions, a decision about the cooling coils being sufficiently clean can be confidently made. Therefore, a *t*-test will be used on the raw data of this constituent.

Table 25. Results of the Shapiro-Wilk test for metal in the rinsates from the cooling coils associated with Tank WM-183.

Analyte	Coefficient	<i>p</i> -value	Non-normal?
Chromium	0.9800	0.9346	No

Table 26. Verification of the standard deviation assumption for metals in the rinsates from the cooling coils associated with Tank WM-183.

Analyte	Standard Deviation ($\mu\text{g/L}$)	Action Level ($\mu\text{g/L}$)	Percentage
Chromium	136	900	15.13%

8.2.1.3 Implementation of the Statistical Test for the Metals Data. Results from the previous subsections indicate that the *t*-test is an appropriate method for analyzing the metals data. The results listed in Table 27 show that levels of chromium are much smaller than the action level. Therefore, it can be seen that closure performance criteria have been met for all metals of concern in the rinsates from the cooling coils associated with Tank WM-183.

Table 27. Summary of post-decontamination concentrations of metal constituents in the rinsates from the cooling coils associated with Tank WM-183.

Constituent	Mean Concentration	95% UCL	Units	<i>t</i> -value	Action Level	Action Level Exceeded?
Chromium	325	455	µg/L	2.132	900	No

8.2.2 Analysis of pH in the Rinsate from Tank WM-183 Cooling Coils

8.2.2.1 Preliminary Data Analysis for pH. The preliminary data analysis consists of several statistical quantities of interest and the five-number summary for pH. The measures of central tendency and spread for pH are listed in Table 28. Table 29 provides the five-number summary for pH. The boxplot for pH (see Appendix B) appears to be left-skewed. However, the normal-quantile plot does not exhibit the same degree of asymmetry. The symmetry will be discussed further in the following subsections when the normality of the data is assessed. Laboratory results and associated validation flags for pH data for WM-183 cooling coils are listed in Appendix E.

Table 28. Measures of central tendency and spread for the pH of the rinsate from the cooling coils associated with Tank WM-183.

Analyte	Mean	Median	Standard Deviation	Coefficient of Variation (%)	Interquartile Range	Range
pH	7.0	6.9	0.13	1.93	0.20	0.30

Table 29. Five-number summary for the pH of the rinsate from the cooling coils associated with Tank WM-183.

Analyte	Minimum Value	First Quartile	Median	Third Quartile	Maximum Value
pH	6.8	6.9	6.9	7.1	7.1

8.2.2.2 Verification of Statistical Test Assumptions for the pH Data. Two of the primary assumptions in performing the *t*-test on the pH data with 95% confidence are that the sample mean follows a normal distribution and that the standard deviation is no more than 10% of the action level. Normal-quantile plots and the Shapiro-Wilk test show that the distribution of the pH data is sufficiently normal to justify the use of a *t*-test on the data. The Shapiro-Wilk results are shown in Table 30.

Table 31 contains the results of the standard deviation assumption. However, it is important to note that since a neutral pH is expressed by a value of 7.0 rather than 0, the absolute value of the difference between the action level and 7.0 was used for comparison. Therefore, the action level used to assess the standard deviation assumption is 5.0 rather than 2.0 or 12. It can be seen that the assumption that the standard deviation is no more than 10% of the action level was comfortably met. Therefore, a *t*-test can be performed on the pH data with the desired degree of confidence.

Table 30. Results of the Shapiro-Wilk test for pH in the rinsates from the cooling coils associated with Tank WM-183.

Analyte	Coefficient	<i>p</i> -value	Non-normal?
pH	0.8519	0.2006	No

Table 31. Verification of the standard deviation assumption for the pH of the rinsates from the cooling coils associated with Tank WM-183.

Analyte	Standard Deviation	Action Level	Percentage
	($\mu\text{g/L}$)		
pH	0.13	5.0	2.68%

8.2.2.3 Implementation of the Statistical Test for the pH Data. Results from the previous subsections indicate that it is appropriate to perform the *t*-test on the pH data. It can be seen from the results indicated in Table 32 that the pH level is not near either of its action levels. Therefore, it can be seen that closure performance criteria has been met for the pH of the rinsates from the cooling coils associated with Tank WM-183.

Table 32. Summary of post-decontamination concentrations of pH in the rinsates from the cooling coils associated with Tank WM-183.

Constituent	Mean Concentration	95% LCL	95% UCL	Lower Action Level	Upper Action Level	Action Level Exceeded?
pH	7.0	6.8	7.1	2.0	12.5	No

8.2.3 Analysis of Radionuclides in the Rinsate from Tank WM-183 Cooling Coils

8.2.3.1 Preliminary Data Analysis for the Radionuclides. The preliminary data analysis consists of several statistical quantities of interest and the five-number summary for the radionuclides. Measures of central tendency and spread for ^{137}Cs are listed in Table 33. Table 34 provides the five-number summary for ^{137}Cs . The boxplot and normal-quantile plot show that the ^{137}Cs data appear to be symmetric in distribution (see Appendix B). The symmetry of these data will not be discussed further since only three of the five values were above the detection limit. However, the measured values of ^{137}Cs are far below the inventory level of 1.15E+11 pCi/L so it can be concluded that the PA has been met.

Table 33. Measures of central tendency and spread for radionuclides in rinsates from WM-183 cooling coils.

Analyte	Mean (pCi/L)	Median (pCi/L)	Standard Deviation (pCi/L)	Coefficient of Variation (%)	Interquartile Range (pCi/L)	Range (pCi/L)
^{137}Cs	4.56E+00	5.17E+00	1.81E+00	3.97E+01	3.07E+00	3.98E+00

Table 34. Five-number summary for radionuclides in the rinsates from the cooling coils associated with Tank WM-183.

Analyte	Minimum Value (pCi/L)	First Quartile (pCi/L)	Median (pCi/L)	Third Quartile (pCi/L)	Maximum Value (pCi/L)
¹³⁷ Cs	2.41E+00	2.88E+00	5.17E+00	5.95E+00	6.39E+00

8.2.4 Conclusions

Five samples of the final decontamination rinsate were analyzed for presence of constituents and properties (i.e., pH) of concern and radionuclides. Very few analytes were present in detectable levels. Those that were detected were present in concentrations that were far less than the associated action or inventory level. Therefore, it can be concluded that closure requirements for the Tank WM-183 cooling coils have been met.

9. SUMMARY OF DATA ANALYSIS FOR PROCESS WASTE LINES

Sections of horizontal and vertical waste lines have been removed from Tanks WM-182 and WM-183. Samples were collected from the process waste lines for WM-182 to determine the effectiveness of decontamination by triple rinsing the TFF process waste piping with water. Samples were also collected from a new, unused line in accordance with the SAP associated with the process waste lines (INEEL 2001) to determine the amount of metals in the rinsate that may have come from the actual pipe rather than the waste that flowed through the pipes. Four pipe sections were filled with rinsate, allowed to sit for 30 minutes and then emptied to obtain the needed samples. Then the process was repeated with new rinsate so that eight samples were obtained from the pipes in question. This process was also performed using a length of unused pipe to obtain information about the contribution of metals from the pipe to the rinsate. Sections of pipe cannot be considered to be from the same population; therefore, each sample is presented in a table for comparison against the associated action level. The metals data were validated in accordance with technical procedures, and validation flags were assigned based on the results of laboratory quality control analyses. No issues with significant impact to data usability were described (Portage 2002).

It is possible that the pipe material could be a key contributor of metal in the sampled rinsate so an unused pipe was sampled to determine the amount of metals that may be present in the rinsate samples due to the pipe material. Concentrations that were observed in the unused pipe (Sample CP10040901XM) were subtracted from the rinsate samples taken from the used pipe as outlined in the SAP. The difference between the observed concentrations from the triple-rinsed pipes and the observed concentrations of the unused pipe is presented in Table 35 with the corresponding action levels. Table 36 lists the difference as a percentage of the action level. Metals that were not detected in any of the pipes are not presented in the tables. It can be seen from the data that none of the metals are present in the pipes at a concentration that is even close to the action levels. Thus, it can be concluded that triple rinsing the lines with water adequately decontaminates the process waste lines.

It was noted that several of the observed concentrations from the unused pipe were greater than the concentrations observed in the decontaminated pipelines. A listing of the observed concentrations without subtracting the values observed in the unused pipe is presented in Tables 37 and 38. It can be concluded from these data that the triple-rinsing process used on the process waste lines provided sufficient decontamination to meet closure requirements.

9.1 Conclusions

Eight sections of lines were decontaminated and sampled to determine the effectiveness of triple rinsing the lines with water as a decontamination method. Samples were also taken from a section of pipe that had never been used to determine how much the piping material contributed to metals concentrations in the samples. The concentrations of the metals in the sample taken from the unused line were subtracted from the concentrations observed in the samples taken from the decontaminated lines to compensate for any metals that were introduced into the sample from the pipe itself. These differences are presented as well as the uncorrected observations to determine the effectiveness of the decontamination method. These data conclusively show that triple rinsing the process waste lines with water sufficiently decontaminates the line to meet closure standards.

Table 35. Comparison of the action level with difference between the metals concentrations from pipe rinsates from decontaminated pipes and the metals concentrations of the unused pipe (i.e., pipe – unused pipe). The unused pipe is Sample CP10040901XM, highlighted.

Sample					
Metal (µg/L)	Aluminum	Barium	Calcium	Chromium	Copper
CP10040101XM	ND	ND	-14	-7.5	ND
CP10040201XM	ND	-3.4	-84.5	-3.5	ND
CP10040301XM	32.7	-0.6	940	-7.9	65.30
CP10040401XM	ND	ND	-62.6	2.3	ND
CP10040501XM	ND	ND	-29.9	-5.7	ND
CP10040601XM	ND	ND	-95.2	-2.7	ND
CP10040701XM	1.9	-3.4	-47.8	-6.1	ND
CP10040801XM	ND	ND	-98.9	-6.4	ND
CP10040901XM	6.8	3.8	120	11.4	4.7
Action Level (µg/L)	3100000	83000	NA	900	600000
Metal (µg/L)	Iron	Magnesium	Manganese	Mercury	Nickel
CP10040101XM	-32.2	4.7	-5.7	ND	-5.7
CP10040201XM	-18.9	ND	-6.6	ND	-3.7
CP10040301XM	141.9	106.2	-1.3	0.595	6.1
CP10040401XM	-10	-2.4	-6.1	ND	1
CP10040501XM	-41.1	2.8	-7.2	ND	-3.9
CP10040601XM	-33.1	ND	-7.1	ND	-2.9
CP10040701XM	-30.7	6.5	-7.3	ND	-3
CP10040801XM	-49.4	-3.2	-7.6	ND	-5.8
CP10040901XM	72.1	11.8	8.3	0.05	8.1
Action Level (µg/L)	1700000	NA	490000	160	440000
Metal (µg/L)	Potassium	Sodium	Zinc		
CP10040101XM	ND	10	5.5		
CP10040201XM	ND	-91.9	0.1		
CP10040301XM	170.1	266	704.7		
CP10040401XM	ND	-79	12.6		
CP10040501XM	ND	24	5		
CP10040601XM	ND	-93.3	-1.4		
CP10040701XM	-4.3	6	-0.8		
CP10040801XM	ND	-98.3	-5.5		
CP10040901XM	32.9	120	10.3		
Action Level (µg/L)	NA	NA	1,700,000		

Table 36. Ratio of the difference between the metals concentrations from pipe rinsates from decontaminated pipes and the metals concentrations of the unused pipe and the action level (i.e., [pipe – unused pipe]/[AL]).

Sample					
Metal ($\mu\text{g/L}$)	Aluminum	Barium	Chromium	Copper	Iron
CP10040101XM	ND	ND	-0.83%	ND	0.00%
CP10040201XM	ND	0.00%	-0.39%	ND	0.00%
CP10040301XM	0.00%	0.00%	-0.88%	0.01%	0.01%
CP10040401XM	ND	ND	0.26%	ND	0.00%
CP10040501XM	ND	ND	-0.63%	ND	0.00%
CP10040601XM	ND	ND	-0.30%	ND	0.00%
CP10040701XM	0.00%	0.00%	-0.68%	ND	0.00%
CP10040801XM	NA	ND	-0.71%	ND	0.00%
Action Level ($\mu\text{g/L}$)	3100000	83000	900	600000	1700000
Metal ($\mu\text{g/L}$)	Manganese	Mercury	Nickel	Zinc	
CP10040101XM	0.00%	ND	0.00%	0.00%	
CP10040201XM	0.00%	ND	0.00%	0.00%	
CP10040301XM	0.00%	0.37%	0.00%	0.04%	
CP10040401XM	0.00%	ND	0.00%	0.00%	
CP10040501XM	0.00%	ND	0.00%	0.00%	
CP10040601XM	0.00%	ND	0.00%	0.00%	
CP10040701XM	0.00%	ND	0.00%	0.00%	
CP10040801XM	0.00%	ND	0.00%	0.00%	
Action Level ($\mu\text{g/L}$)	490000	160	440000	1700000	

Table 37. Comparison of the action level with the observed metals concentrations from process waste line rinsates. The unused pipe is Sample CP10040901XM, highlighted.

Sample					
Metal (µg/L)	Aluminum	Barium	Calcium	Chromium	Copper
CP10040101XM	ND	ND	106	3.9	ND
CP10040201XM	ND	0.4	35.5	7.9	ND
CP10040301XM	39.5	3.2	1060	3.5	70.00
CP10040401XM	ND	ND	57.4	13.7	ND
CP10040501XM	ND	ND	90.1	5.7	ND
CP10040601XM	ND	ND	24.8	8.7	ND
CP10040701XM	8.7	0.4	72.2	5.3	ND
CP10040801XM	ND	ND	21.1	5.0	ND
CP10040901XM	6.8	3.8	120	11.4	4.7
Action Level (µg/L)	3100000	83000	NA	900	600000
Metal (µg/L)	Iron	Magnesium	Manganese	Mercury	Nickel
CP10040101XM	39.9	16.5	2.6	ND	2.4
CP10040201XM	53.2	ND	1.7	ND	4.4
CP10040301XM	214	118	7	0.62	14.2
CP10040401XM	62.1	9.4	2.2	ND	9.1
CP10040501XM	31.0	14.6	1.1	ND	4.2
CP10040601XM	39.0	ND	1.2	ND	5.2
CP10040701XM	41.4	18.3	1	ND	5.1
CP10040801XM	22.7	8.6	0.7	ND	2.3
CP10040901XM	72.1	11.8	8.3	ND	8.1
Action Level (µg/L)	1700000	NA	490000	160	440000
Metal (µg/L)	Potassium	Sodium	Zinc		
CP10040101XM	ND	130	15.8		
CP10040201XM	ND	28.1	10.4		
CP10040301XM	203	386	715		
CP10040401XM	ND	41	22.9		
CP10040501XM	ND	144	15.3		
CP10040601XM	ND	26.7	8.9		
CP10040701XM	28.6	126	9.5		
CP10040801XM	ND	21.7	4.8		
CP10040901XM	32.9	120	10.3		
Action Level (µg/L)	NA	NA	1700000		

Table 38. Ratio of the observed metal concentrations from rinsates obtained from decontaminated process waste lines and the action level (i.e., pipe/action level). The unused pipe is Sample CP10040901XM, highlighted.

Sample					
Metal	Aluminum	Barium	Chromium	Copper	Iron
CP10040101XM	ND	ND	0.43%	ND	0.00%
CP10040201XM	ND	0.00%	0.88%	ND	0.00%
CP10040301XM	0.00%	0.00%	0.39%	0.01%	0.01%
CP10040401XM	ND	ND	1.52%	ND	0.00%
CP10040501XM	ND	ND	0.63%	ND	0.00%
CP10040601XM	ND	ND	0.97%	ND	0.00%
CP10040701XM	0.00%	0.00%	0.59%	ND	0.00%
CP10040801XM	ND	ND	0.56%	ND	0.00%
CP10040901XM	0.00%	0.00%	1.27%	0.00%	0.00%
Action Level ($\mu\text{g/L}$)	3100000	83000	900	600000	1700000
Metal ($\mu\text{g/L}$)	Manganese	Mercury	Nickel	Zinc	
CP10040101XM	0.00%	ND	0.00%	0.00%	
CP10040201XM	0.00%	ND	0.00%	0.00%	
CP10040301XM	0.00%	0.39%	0.00%	0.04%	
CP10040401XM	0.00%	ND	0.00%	0.00%	
CP10040501XM	0.00%	ND	0.00%	0.00%	
CP10040601XM	0.00%	ND	0.00%	0.00%	
CP10040701XM	0.00%	ND	0.00%	0.00%	
CP10040801XM	0.00%	ND	0.00%	0.00%	
CP10040901XM	0.00%	ND	0.00%	0.00%	
Action Level ($\mu\text{g/L}$)	490000	160	440000	1700000	

10. CONCLUSIONS

Rinsate samples were taken from the ancillary equipment associated with Tanks WM-182 and WM-183 that were addressed in the HWMA/RCRA closure plan (DOE-ID 2003a). Ancillary equipment that was decontaminated includes the vault sumps, the C-6 diversion valve box, cooling coils, and waste process lines associated with the two tanks. Rinsate samples were taken from all of the equipment and analyzed for constituents, properties (i.e., pH), and radionuclides of concern. Rinsate samples taken from the vault sumps were determined to be from separate populations, and therefore, were not pooled together for data analysis. This was a noted deviation from the SAP associated with the decontamination of the vault sumps (INEEL 2002). The decontamination method was shown to be adequate based on triple rinsing of WM-182 waste process lines (INEEL 2001). None of the ancillary equipment associated with WM-182 and WM-183 contained concentrations of these analytes at levels that exceeded the action or inventory levels.

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Appendix A

Graphical Representation of Data from WM-182 Cooling Coils

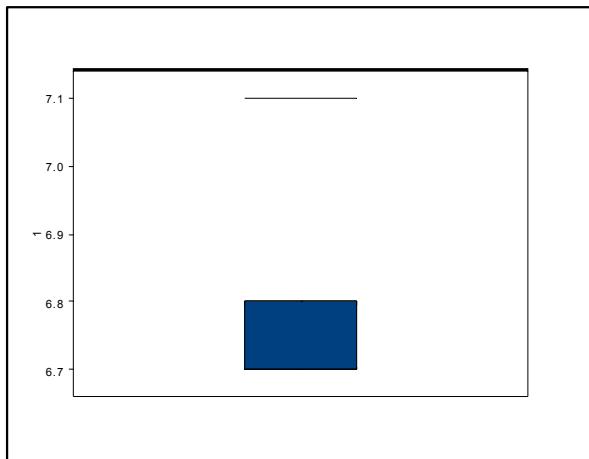


Figure A-1. Boxplot for pH data.

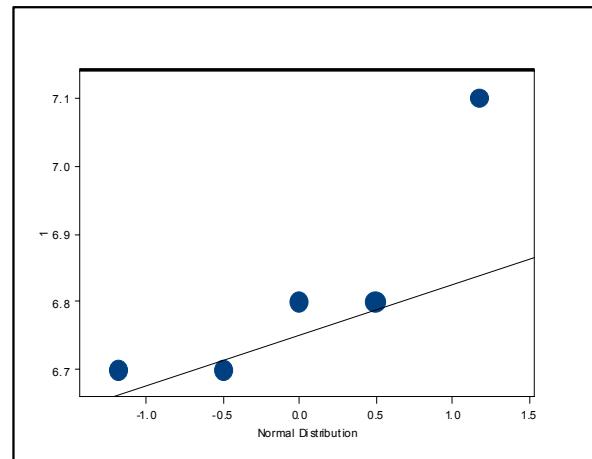


Figure A-2. Normal-quantile plot for pH data.

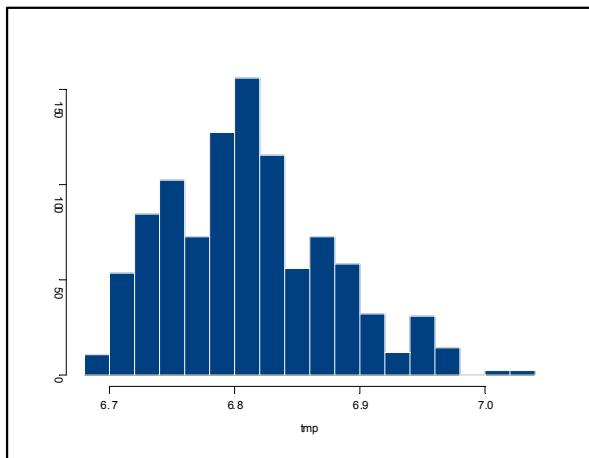


Figure A-3. Histogram of sample means generated by bootstrapping.

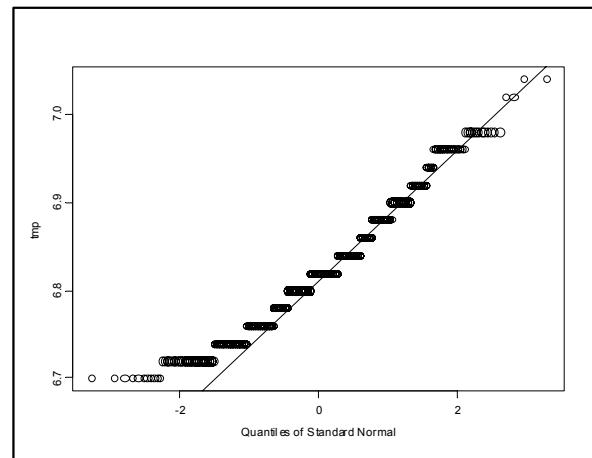


Figure A-4. Normal-quantile plot of sample means generated by bootstrapping.

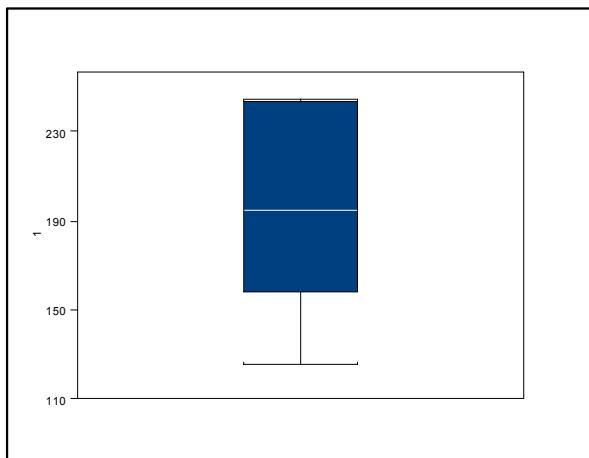


Figure A-5. Boxplot for chromium data.

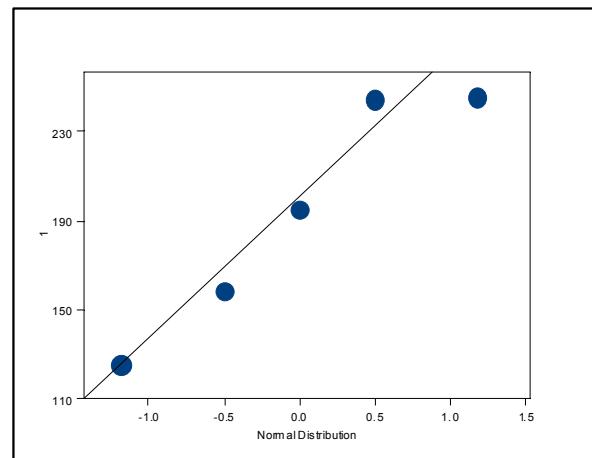


Figure A-6. Normal-quantile plot for chromium data.

Appendix B

Graphical Representation of Data from WM-183 Cooling Coils

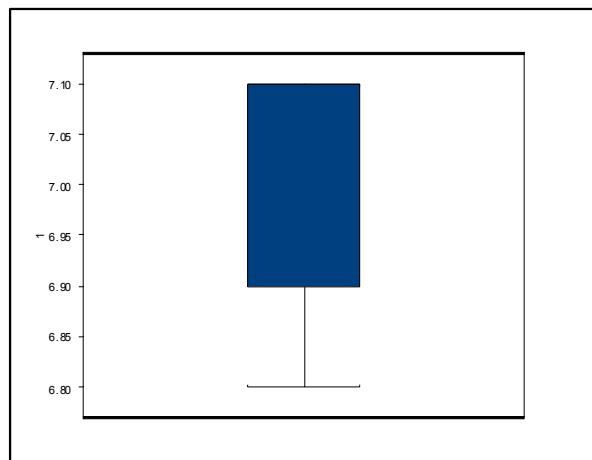


Figure B-1. Boxplot for pH data.

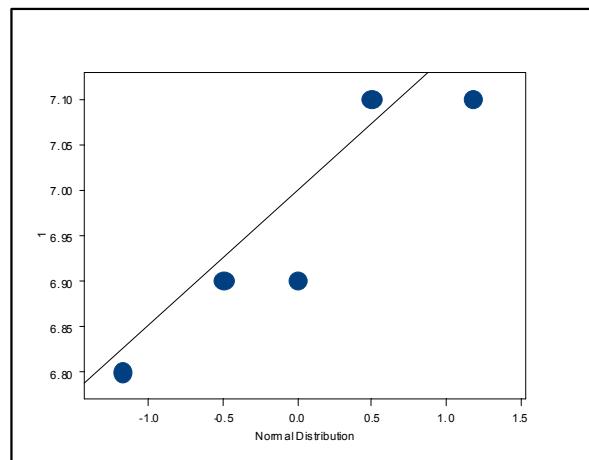


Figure B-2. Normal-quantile plot for pH data.

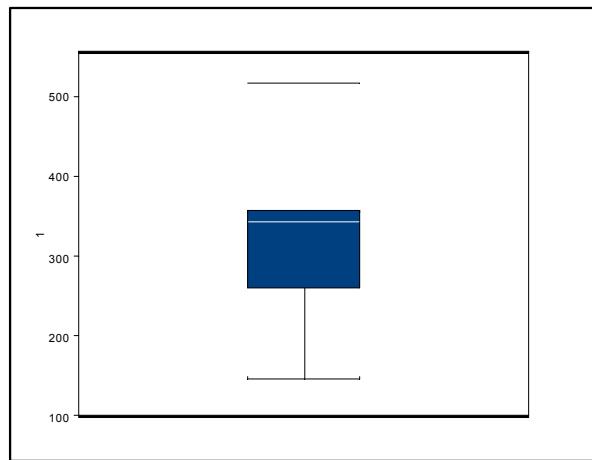


Figure B-3. Boxplot for chromium data.

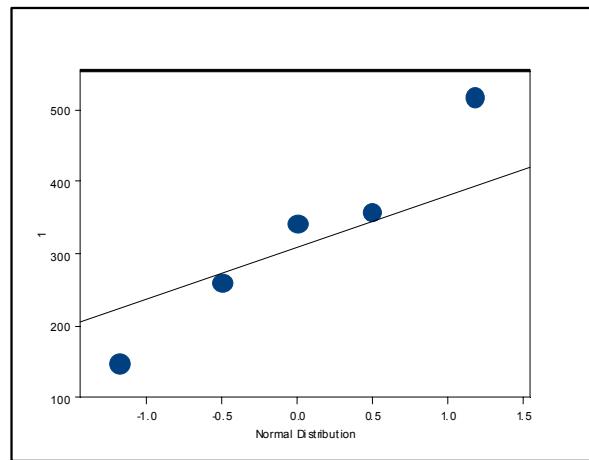


Figure B-4. Normal-quantile plots for chromium data.

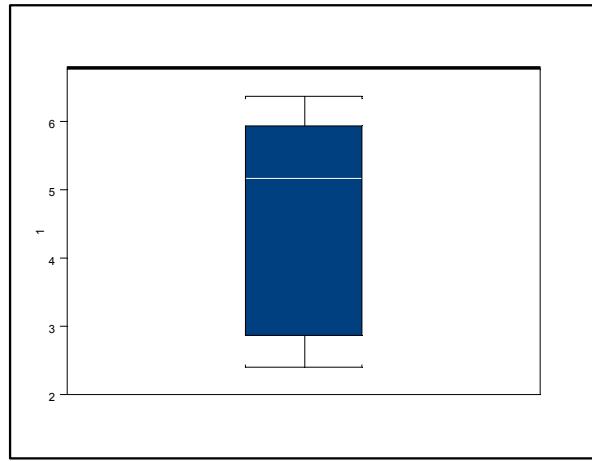


Figure B-5. Boxplot for ^{137}Cs data.

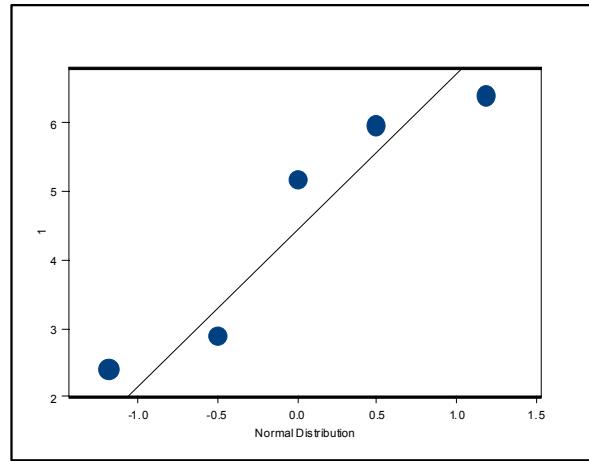


Figure B-6. Normal-quantile plot for ^{137}Cs data.

Appendix C

Reported Results for WM-182 and WM-183 Vault Sumps and C-6 Diversion Valve Box

Table C-1. Reported results for metals analyses for WM-182 and WM-183 vault sumps and C-6 diversion valve box.

Field Sample ID	Lab Sample ID	Sampling Location	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag ^b	Validator Flag ^c
CP10060601XM	3AJ49	WM-182 SR-19	INORG	Metals	7429-90-5	Aluminum	6.71E+01	µg/L	B	
CP10060701XM	3AF19	WM-182 SR-19	INORG	Metals	7429-90-5	Aluminum	1.52E+02	µg/L		
CP10060801XM	3AG38	Valve Box C-6	INORG	Metals	7429-90-5	Aluminum	1.81E+03	µg/L		
CP10060901XM	3AJ54	WM-183 SR-21	INORG	Metals	7429-90-5	Aluminum	3.20E+03	µg/L		
CP10061001XM	3AF59	WM-183 SR-21	INORG	Metals	7429-90-5	Aluminum	1.36E+03	µg/L		
CP10062701XM ^a	3BG75	WM-183 SR-21	INORG	Metals	7429-90-5	Aluminum	1.65E+03	µg/L		
CP10060601XM	3AJ49	WM-182 SR-19	INORG	Metals	7440-36-0	Antimony	4.50E+00	µg/L	U	
CP10060701XM	3AF19	WM-182 SR-19	INORG	Metals	7440-36-0	Antimony	5.70E+00	µg/L	B	
CP10060801XM	3AG38	Valve Box C-6	INORG	Metals	7440-36-0	Antimony	1.08E+01	µg/L	B	
CP10060901XM	3AJ54	WM-183 SR-21	INORG	Metals	7440-36-0	Antimony	4.50E+00	µg/L	U	
CP10061001XM	3AF59	WM-183 SR-21	INORG	Metals	7440-36-0	Antimony	4.50E+00	µg/L	U	
CP10062701XM ^a	3BG75	WM-183 SR-21	INORG	Metals	7440-36-0	Antimony	1.75E+01	µg/L	U	
CP10060601XM	3AJ49	WM-182 SR-19	INORG	Metals	7440-38-2	Arsenic	4.30E+00	µg/L	U	
CP10060701XM	3AF19	WM-182 SR-19	INORG	Metals	7440-38-2	Arsenic	4.30E+00	µg/L	U	
CP10060801XM	3AG38	Valve Box C-6	INORG	Metals	7440-38-2	Arsenic	4.30E+00	µg/L	U	
CP10060901XM	3AJ54	WM-183 SR-21	INORG	Metals	7440-38-2	Arsenic	4.30E+00	µg/L	U	
CP10061001XM	3AF59	WM-183 SR-21	INORG	Metals	7440-38-2	Arsenic	4.30E+00	µg/L	U	
CP10062701XM ^a	3BG75	WM-183 SR-21	INORG	Metals	7440-38-2	Arsenic	1.75E+01	µg/L	U	
CP10060601XM	3AJ49	WM-182 SR-19	INORG	Metals	7440-39-3	Barium	5.6E+00	µg/L		
CP10060701XM	3AF19	WM-182 SR-19	INORG	Metals	7440-39-3	Barium	6.5E+00	µg/L		
CP10060801XM	3AG38	Valve Box C-6	INORG	Metals	7440-39-3	Barium	2.6E+01	µg/L		
CP10060901XM	3AJ54	WM-183 SR-21	INORG	Metals	7440-39-3	Barium	1.1E+00	µg/L	B	U
CP10061001XM	3AF59	WM-183 SR-21	INORG	Metals	7440-39-3	Barium	4.3E+01	µg/L		
CP10062701XM ^a	3BG75	WM-183 SR-21	INORG	Metals	7440-39-3	Barium	2.5E+00	µg/L	U	
CP10060601XM	3AJ49	WM-182 SR-19	INORG	Metals	7440-41-7	Beryllium	1.0E-01	µg/L	U	

Table C-1. (continued).

Field Sample ID	Lab Sample ID	Sampling Location	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag ^b	Validator Flag ^c
CP10060701XM	3AF19	WM-182 SR-19	INORG	Metals	7440-41-7	Beryllium	1.0E-01	µg/L	U	C4
CP10060801XM	3AG38	Valve Box C-6	INORG	Metals	7440-41-7	Beryllium	1.0E-01	µg/L	B	
CP10060901XM	3AJ54	WM-183 SR-21	INORG	Metals	7440-41-7	Beryllium	2.0E-01	µg/L	B	
CP10061001XM	3AF59	WM-183 SR-21	INORG	Metals	7440-41-7	Beryllium	1.0E-01	µg/L	B	
CP10062701XM ^a	3BG75	WM-183 SR-21	INORG	Metals	7440-41-7	Beryllium	5.0E-01	µg/L	U	
CP10060601XM	3AJ49	WM-182 SR-19	INORG	Metals	7440-43-9	Cadmium	4.00E-01	µg/L	U	
CP10060701XM	3AF19	WM-182 SR-19	INORG	Metals	7440-43-9	Cadmium	4.00E-01	µg/L	U	
CP10060801XM	3AG38	Valve Box C-6	INORG	Metals	7440-43-9	Cadmium	3.70E+00	µg/L	B	
CP10060901XM	3AJ54	WM-183 SR-21	INORG	Metals	7440-43-9	Cadmium	6.26E+02	µg/L		
CP10061001XM	3AF59	WM-183 SR-21	INORG	Metals	7440-43-9	Cadmium	1.24E+02	µg/L		
CP10062701XM ^a	3BG75	WM-183 SR-21	INORG	Metals	7440-43-9	Cadmium	2.03E+02	µg/L		
CP10060601XM	3AJ49	WM-182 SR-19	INORG	Metals	7440-70-2	Calcium	9.51E+03	µg/L		
CP10060701XM	3AF19	WM-182 SR-19	INORG	Metals	7440-70-2	Calcium	8.27E+03	µg/L		
CP10060801XM	3AG38	Valve Box C-6	INORG	Metals	7440-70-2	Calcium	1.41E+04	µg/L		
CP10060901XM	3AJ54	WM-183 SR-21	INORG	Metals	7440-70-2	Calcium	2.80E+04	µg/L		
CP10061001XM	3AF59	WM-183 SR-21	INORG	Metals	7440-70-2	Calcium	1.28E+04	µg/L		
CP10062701XM ^a	3BG75	WM-183 SR-21	INORG	Metals	7440-70-2	Calcium	1.09E+04	µg/L	BW	
CP10060601XM	3AJ49	WM-182 SR-19	INORG	Metals	7440-47-3	Chromium	3.56E+01	µg/L		
CP10060701XM	3AF19	WM-182 SR-19	INORG	Metals	7440-47-3	Chromium	3.22E+01	µg/L		
CP10060801XM	3AG38	Valve Box C-6	INORG	Metals	7440-47-3	Chromium	1.13E+02	µg/L		
CP10060901XM	3AJ54	WM-183 SR-21	INORG	Metals	7440-47-3	Chromium	9.20E+00	µg/L		
CP10061001XM	3AF59	WM-183 SR-21	INORG	Metals	7440-47-3	Chromium	3.61E+01	µg/L		
CP10062701XM ^a	3BG75	WM-183 SR-21	INORG	Metals	7440-47-3	Chromium	1.00E+01	µg/L	B	
CP10060601XM	3AJ49	WM-182 SR-19	INORG	Metals	7440-48-4	Cobalt	9.0E-01	µg/L	U	
CP10060701XM	3AF19	WM-182 SR-19	INORG	Metals	7440-48-4	Cobalt	9.0E-01	µg/L	U	
CP10060801XM	3AG38	Valve Box C-6	INORG	Metals	7440-48-4	Cobalt	7.4E+01	µg/L		

Table C-1. (continued).

Field Sample ID	Lab Sample ID	Sampling Location	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag ^b	Validator Flag ^c
CP10060901XM	3AJ54	WM-183 SR-21	INORG	Metals	7440-48-4	Cobalt	2.0E+00	µg/L	B	
CP10061001XM	3AF59	WM-183 SR-21	INORG	Metals	7440-48-4	Cobalt	1.0E+00	µg/L	B	
CP10062701XM ^a	3BG75	WM-183 SR-21	INORG	Metals	7440-48-4	Cobalt	3.5E+00	µg/L	U	
CP10060601XM	3AJ49	WM-182 SR-19	INORG	Metals	7440-50-8	Copper	1.0E+00	µg/L	U	
CP10060701XM	3AF19	WM-182 SR-19	INORG	Metals	7440-50-8	Copper	1.3E+00	µg/L	B	
CP10060801XM	3AG38	Valve Box C-6	INORG	Metals	7440-50-8	Copper	1.8E+02	µg/L		
CP10060901XM	3AJ54	WM-183 SR-21	INORG	Metals	7440-50-8	Copper	4.2E+00	µg/L	B	
CP10061001XM	3AF59	WM-183 SR-21	INORG	Metals	7440-50-8	Copper	3.6E+00	µg/L	B	
CP10062701XM ^a	3BG75	WM-183 SR-21	INORG	Metals	7440-50-8	Copper	5.5E+00	µg/L	U	
CP10060601XM	3AJ49	WM-182 SR-19	INORG	Metals	7439-89-6	Iron	4.21E+02	µg/L		
CP10060701XM	3AF19	WM-182 SR-19	INORG	Metals	7439-89-6	Iron	2.24E+03	µg/L		
CP10060801XM	3AG38	Valve Box C-6	INORG	Metals	7439-89-6	Iron	4.08E+03	µg/L		
CP10060901XM	3AJ54	WM-183 SR-21	INORG	Metals	7439-89-6	Iron	8.83E+01	µg/L		
CP10061001XM	3AF59	WM-183 SR-21	INORG	Metals	7439-89-6	Iron	2.18E+03	µg/L		
CP10062701XM ^a	3BG75	WM-183 SR-21	INORG	Metals	7439-89-6	Iron	1.53E+02	µg/L	B	
CP10060601XM	3AJ49	WM-182 SR-19	INORG	Metals	7439-92-1	Lead	7.30E+00	µg/L	U	
CP10060701XM	3AF19	WM-182 SR-19	INORG	Metals	7439-92-1	Lead	7.30E+00	µg/L	U	
CP10060801XM	3AG38	Valve Box C-6	INORG	Metals	7439-92-1	Lead	1.11E+03	µg/L		
CP10060901XM	3AJ54	WM-183 SR-21	INORG	Metals	7439-92-1	Lead	7.30E+00	µg/L	U	
CP10061001XM	3AF59	WM-183 SR-21	INORG	Metals	7439-92-1	Lead	4.35E+01	µg/L	B	
CP10062701XM ^a	3BG75	WM-183 SR-21	INORG	Metals	7439-92-1	Lead	2.25E+01	µg/L	U	
CP10060601XM	3AJ49	WM-182 SR-19	INORG	Metals	7439-95-4	Magnesium	2.67E+03	µg/L		
CP10060701XM	3AF19	WM-182 SR-19	INORG	Metals	7439-95-4	Magnesium	2.11E+03	µg/L		
CP10060801XM	3AG38	Valve Box C-6	INORG	Metals	7439-95-4	Magnesium	1.33E+03	µg/L		
CP10060901XM	3AJ54	WM-183 SR-21	INORG	Metals	7439-95-4	Magnesium	8.43E+03	µg/L		
CP10061001XM	3AF59	WM-183 SR-21	INORG	Metals	7439-95-4	Magnesium	1.46E+03	µg/L		

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Table C-1. (continued).

Field Sample ID	Lab Sample ID	Sampling Location	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag ^b	Validator Flag ^c
CP10062701XM ^a	3BG75	WM-183 SR-21	INORG	Metals	7439-95-4	Magnesium	2.73E+03	µg/L	B	
CP10060601XM	3AJ49	WM-182 SR-19	INORG	Metals	7439-96-5	Manganese	3.00E+00	µg/L		
CP10060701XM	3AF19	WM-182 SR-19	INORG	Metals	7439-96-5	Manganese	1.03E+01	µg/L		
CP10060801XM	3AG38	Valve Box C-6	INORG	Metals	7439-96-5	Manganese	8.25E+01	µg/L		
CP10060901XM	3AJ54	WM-183 SR-21	INORG	Metals	7439-96-5	Manganese	1.04E+02	µg/L		
CP10061001XM	3AF59	WM-183 SR-21	INORG	Metals	7439-96-5	Manganese	3.61E+01	µg/L		
CP10062701XM ^a	3BG75	WM-183 SR-21	INORG	Metals	7439-96-5	Manganese	2.80E+01	µg/L	B	
CP10060601XM	3AJ49	WM-182 SR-19	INORG	Metals	7439-97-6	Mercury	1.15E+01	µg/L		
CP10060701XM	3AF19	WM-182 SR-19	INORG	Metals	7439-97-6	Mercury	1.47E+01	µg/L		
CP10060801XM	3AG38	Valve Box C-6	INORG	Metals	7439-97-6	Mercury	8.00E+00	µg/L		
CP10060901XM	3AJ54	WM-183 SR-21	INORG	Metals	7439-97-6	Mercury	4.52E+02	µg/L		
CP10061001XM	3AF59	WM-183 SR-21	INORG	Metals	7439-97-6	Mercury	1.53E+02	µg/L		
CP10062701XM ^a	3BG75	WM-183 SR-21	INORG	Metals	7439-97-6	Mercury	1.13E+02	µg/L		
CP10060601XM	3AJ49	WM-182 SR-19	INORG	Metals	7439-98-7	Molybdenum	1.92E+01	µg/L	B	
CP10060701XM	3AF19	WM-182 SR-19	INORG	Metals	7439-98-7	Molybdenum	1.60E+01	µg/L	B	
CP10060801XM	3AG38	Valve Box C-6	INORG	Metals	7439-98-7	Molybdenum	1.81E+01	µg/L	B	
CP10060901XM	3AJ54	WM-183 SR-21	INORG	Metals	7439-98-7	Molybdenum	1.59E+01	µg/L	B	
CP10061001XM	3AF59	WM-183 SR-21	INORG	Metals	7439-98-7	Molybdenum	2.19E+01	µg/L	B	
CP10062701XM ^a	3BG75	WM-183 SR-21	INORG	Metals	7439-98-7	Molybdenum	1.10E+01	µg/L	U	
CP10060601XM	3AJ49	WM-182 SR-19	INORG	Metals	7440-02-0	Nickel	1.10E+00	µg/L	U	
CP10060701XM	3AF19	WM-182 SR-19	INORG	Metals	7440-02-0	Nickel	1.70E+00	µg/L	B	U
CP10060801XM	3AG38	Valve Box C-6	INORG	Metals	7440-02-0	Nickel	5.05E+01	µg/L		
CP10060901XM	3AJ54	WM-183 SR-21	INORG	Metals	7440-02-0	Nickel	2.23E+01	µg/L		
CP10061001XM	3AF59	WM-183 SR-21	INORG	Metals	7440-02-0	Nickel	4.40E+00	µg/L	B	U
CP10062701XM ^a	3BG75	WM-183 SR-21	INORG	Metals	7440-02-0	Nickel	2.50E+01	µg/L	B	
CP10060601XM	3AJ49	WM-182 SR-19	INORG	Metals	7440-09-7	Potassium	2.87E+04	µg/L		

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Table C-1. (continued).

Field Sample ID	Lab Sample ID	Sampling Location	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag ^b	Validator Flag ^c
CP10060701XM	3AF19	WM-182 SR-19	INORG	Metals	7440-09-7	Potassium	2.41E+04	µg/L		
CP10060801XM	3AG38	Valve Box C-6	INORG	Metals	7440-09-7	Potassium	1.87E+04	µg/L		
CP10060901XM	3AJ54	WM-183 SR-21	INORG	Metals	7440-09-7	Potassium	3.16E+04	µg/L		
CP10061001XM	3AF59	WM-183 SR-21	INORG	Metals	7440-09-7	Potassium	9.42E+03	µg/L		
CP10062701XM ^a	3BG75	WM-183 SR-21	INORG	Metals	7440-09-7	Potassium	1.53E+04	µg/L	BD	
CP10060601XM	3AJ49	WM-182 SR-19	INORG	Metals	7782-49-2	Selenium	3.90E+00	µg/L	U	
CP10060701XM	3AF19	WM-182 SR-19	INORG	Metals	7782-49-2	Selenium	3.90E+00	µg/L	U	
CP10060801XM	3AG38	Valve Box C-6	INORG	Metals	7782-49-2	Selenium	3.90E+00	µg/L	U	
CP10060901XM	3AJ54	WM-183 SR-21	INORG	Metals	7782-49-2	Selenium	1.58E+01	µg/L	B	
CP10061001XM	3AF59	WM-183 SR-21	INORG	Metals	7782-49-2	Selenium	3.90E+00	µg/L	U	
CP10062701XM ^a	3BG75	WM-183 SR-21	INORG	Metals	7782-49-2	Selenium	1.90E+01	µg/L	U	
CP10060601XM	3AJ49	WM-182 SR-19	INORG	Metals	7440-22-4	Silver	1.7E+00	µg/L	U	
CP10060701XM	3AF19	WM-182 SR-19	INORG	Metals	7440-22-4	Silver	1.7E+00	µg/L	U	
CP10060801XM	3AG38	Valve Box C-6	INORG	Metals	7440-22-4	Silver	3.2E+00	µg/L	B	
CP10060901XM	3AJ54	WM-183 SR-21	INORG	Metals	7440-22-4	Silver	1.7E+00	µg/L	U	
CP10061001XM	3AF59	WM-183 SR-21	INORG	Metals	7440-22-4	Silver	1.7E+00	µg/L	U	
CP10062701XM ^a	3BG75	WM-183 SR-21	INORG	Metals	7440-22-4	Silver	8.0E+00	µg/L	U	
CP10060601XM	3AJ49	WM-182 SR-19	INORG	Metals	7440-23-5	Sodium	3.11E+04	µg/L		
CP10060701XM	3AF19	WM-182 SR-19	INORG	Metals	7440-23-5	Sodium	2.73E+04	µg/L		
CP10060801XM	3AG38	Valve Box C-6	INORG	Metals	7440-23-5	Sodium	1.08E+04	µg/L		
CP10060901XM	3AJ54	WM-183 SR-21	INORG	Metals	7440-23-5	Sodium	6.36E+04	µg/L		
CP10061001XM	3AF59	WM-183 SR-21	INORG	Metals	7440-23-5	Sodium	1.26E+04	µg/L		
CP10062701XM ^a	3BG75	WM-183 SR-21	INORG	Metals	7440-23-5	Sodium	2.25E+04	µg/L	BD	
CP10060601XM	3AJ49	WM-182 SR-19	INORG	Metals	7440-28-0	Thallium	3.40E+00	µg/L	U	
CP10060701XM	3AF19	WM-182 SR-19	INORG	Metals	7440-28-0	Thallium	4.00E+00	µg/L	B	U
CP10060801XM	3AG38	Valve Box C-6	INORG	Metals	7440-28-0	Thallium	3.40E+00	µg/L	U	

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Table C-1. (continued).

Field Sample ID	Lab Sample ID	Sampling Location	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag ^b	Validator Flag ^c
CP10060901XM	3AJ54	WM-183 SR-21	INORG	Metals	7440-28-0	Thallium	5.50E+00	µg/L	B	U
CP10061001XM	3AF59	WM-183 SR-21	INORG	Metals	7440-28-0	Thallium	3.40E+00	µg/L	U	
CP10062701XM ^a	3BG75	WM-183 SR-21	INORG	Metals	7440-28-0	Thallium	2.90E+01	µg/L	U	
CP10060601XM	3AJ49	WM-182 SR-19	INORG	Metals	7440-62-2	Vanadium	4.2E+00	µg/L	B	
CP10060701XM	3AF19	WM-182 SR-19	INORG	Metals	7440-62-2	Vanadium	3.6E+00	µg/L	B	
CP10060801XM	3AG38	Valve Box C-6	INORG	Metals	7440-62-2	Vanadium	1.7E+00	µg/L	U	
CP10060901XM	3AJ54	WM-183 SR-21	INORG	Metals	7440-62-2	Vanadium	1.7E+00	µg/L	U	
CP10061001XM	3AF59	WM-183 SR-21	INORG	Metals	7440-62-2	Vanadium	3.5E+00	µg/L	B	
CP10062701XM ^a	3BG75	WM-183 SR-21	INORG	Metals	7440-62-2	Vanadium	7.0E+00	µg/L	U	
CP10060601XM	3AJ49	WM-182 SR-19	INORG	Metals	7440-66-6	Zinc	1.80E+00	µg/L	B	
CP10060701XM	3AF19	WM-182 SR-19	INORG	Metals	7440-66-6	Zinc	4.90E+00	µg/L	B	
CP10060801XM	3AG38	Valve Box C-6	INORG	Metals	7440-66-6	Zinc	1.40E+02	µg/L		
CP10060901XM	3AJ54	WM-183 SR-21	INORG	Metals	7440-66-6	Zinc	2.87E+01	µg/L		
CP10061001XM	3AF59	WM-183 SR-21	INORG	Metals	7440-66-6	Zinc	1.39E+01	µg/L		
CP10062701XM ^a	3BG75	WM-183 SR-21	INORG	Metals	7440-66-6	Zinc	3.00E+01	µg/L	B	

a. Due to high metals results on CP10060901, SR-21 was rerinsed and resampled for metals.

b. Laboratory flags:

B = Analyte was below the required detection limit but greater than or equal to the instrument detection limit

D = Identified in an analysis at a secondary dilution factor

U = Analyte was analyzed for but not detected

W = Serial dilution or analytical spike not within limits.

c. Validator flags:

U = Undetected.

Table C-2. Reported results for anions and pH analyses for WM-182 and WM-183 vault sums and C-6 diversion valve box.

Field Sample ID	Location	Lab Sample ID	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag ^a	Validator Flag ^b
CP10060701AN	WM-182 SR-19	3AF63	INORG	Miscellaneous	16887-00-6	Chloride	1	mg/L		
CP10061001AN	WM-183 SR-21	3AF60	INORG	Miscellaneous	16887-00-6	Chloride	1	mg/L		
CP10060601AN	WM-182 SR-19	3AJ50	INORG	Miscellaneous	16887-00-6	Chloride	1.1	mg/L	X	
CP10060801AN	DVB-C6	3AG39	INORG	Miscellaneous	16887-00-6	Chloride	2.8	mg/L		
CP10060901AN	WM-183 SR-21	3AJ55	INORG	Miscellaneous	16887-00-6	Chloride	7.0	mg/L	X	
CP10060601AN	WM-182 SR-19	3AJ50	INORG	Miscellaneous	16984-48-8	Fluoride	0.95	mg/L	X	J
CP10060701AN	WM-182 SR-19	3AF63	INORG	Miscellaneous	16984-48-8	Fluoride	2.6	mg/L		R
CP10061001AN	WM-183 SR-21	3AF60	INORG	Miscellaneous	16984-48-8	Fluoride	2.8	mg/L		
CP10060801AN	DVB-C6	3AG39	INORG	Miscellaneous	16984-48-8	Fluoride	4.5	mg/L		
CP10060901AN	WM-183 SR-21	3AJ55	INORG	Miscellaneous	16984-48-8	Fluoride	42.9	mg/L	X	J
CP10060701AN	WM-182 SR-19	3AF63	INORG	Miscellaneous	*Nitrate	Nitrate	2	mg N/L		R
CP10061001AN	WM-183 SR-21	3AF60	INORG	Miscellaneous	*Nitrate	Nitrate	2.1	mg N/L		
CP10060601AN	WM-182 SR-19	3AJ50	INORG	Miscellaneous	*Nitrate	Nitrate	2.5	mg N/L		
CP10060801AN	DVB-C6	3AG39	INORG	Miscellaneous	*Nitrate	Nitrate	3.2	mg N/L		
CP10060901AN	WM-183 SR-21	3AJ55	INORG	Miscellaneous	*Nitrate	Nitrate	33.5	mg N/L		
CP10060901PH	WM-183 SR-21	3AJ56	INORG	Miscellaneous	*pH	pH	5.3	N/A		
CP10061001PH	WM-183 SR-21	3AF61	INORG	Miscellaneous	*pH	pH	6.3	N/A		
CP10060601PH	WM-182 SR-19	3AJ51	INORG	Miscellaneous	*pH	pH	8.3	N/A		
CP10060701PH	WM-182 SR-19	3AF21	INORG	Miscellaneous	*pH	pH	8.4	N/A		
CP10060801PH	DVB-C6	3AG40	INORG	Miscellaneous	*pH	pH	8.6	N/A		
CP10060801AN	DVB-C6	3AG39	INORG	Miscellaneous	*Phosphate	Phosphate	0.08	mg P/L	UE	
CP10060901AN	WM-183 SR-21	3AJ55	INORG	Miscellaneous	*Phosphate	Phosphate	0.08	mg P/L	UNX	
CP10061001AN	WM-183 SR-21	3AF60	INORG	Miscellaneous	*Phosphate	Phosphate	0.66	mg P/L	E	J
CP10060701AN	WM-182 SR-19	3AF63	INORG	Miscellaneous	*Phosphate	Phosphate	0.7	mg P/L		
CP10060601AN	WM-182 SR-19	3AJ50	INORG	Miscellaneous	*Phosphate	Phosphate	0.87	mg P/L	NX	J
CP10060801AN	DVB-C6	3AG39	INORG	Miscellaneous	14808-79-8	Sulfate	6.1	mg/L		
CP10060701AN	WM-182 SR-19	3AF63	INORG	Miscellaneous	14808-79-8	Sulfate	9.2	mg/L		

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Table C-2. (continued).

Field Sample ID	Location	Lab Sample ID	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag ^a	Validator Flag ^b
CP10061001AN	WM-183 SR-21	3AF60	INORG	Miscellaneous	14808-79-8	Sulfate	9.2	mg/L		
CP10060601AN	WM-182 SR-19	3AJ50	INORG	Miscellaneous	14808-79-8	Sulfate	10.2	mg/L		
CP10060901AN	WM-183 SR-21	3AJ55	INORG	Miscellaneous	14808-79-8	Sulfate	64.8	mg/L		

a. Laboratory flags:

E = Reported value was estimated because of the presence of interference

N = Spike failed

U = Undetected

X = Serial dilution failed.

b. Validator flag definitions:

J = Estimated value

R = Rejected

U = Undetected.

Table C-3. Reported results for organic analyses for WM-182 and WM-183 vault sums and C-6 diversion valve box.

Field Sample ID	Location	Lab Sample ID	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag ^a	Validator Flag ^b
CP10060601PC	WM-182 SR-19	0302054-04	ORG	PCB	12674-11-2	PCB-1016 (Aroclor-1016)	1	µg/L	U	
CP10060701PC	WM-182 SR-19	0301062-04	ORG	PCB	12674-11-2	PCB-1016 (Aroclor-1016)	1	µg/L	U	
CP10060801PC	DVB-C6	0302014-02	ORG	PCB	12674-11-2	PCB-1016 (Aroclor-1016)	1	µg/L	U	
CP10060901PC	WM-183 SR-21	0302054-12	ORG	PCB	12674-11-2	PCB-1016 (Aroclor-1016)	1	µg/L	U	
CP10061001PC	WM-183 SR-21	0301067-02	ORG	PCB	12674-11-2	PCB-1016 (Aroclor-1016)	1	µg/L	U	UJ
CP10060601PC	WM-182 SR-19	0302054-04	ORG	PCB	11104-28-2	PCB-1221 (Aroclor-1221)	1	µg/L	U	
CP10060701PC	WM-182 SR-19	0301062-04	ORG	PCB	11104-28-2	PCB-1221 (Aroclor-1221)	1	µg/L	U	
CP10060801PC	DVB-C6	0302014-02	ORG	PCB	11104-28-2	PCB-1221 (Aroclor-1221)	1	µg/L	U	
CP10060901PC	WM-183 SR-21	0302054-12	ORG	PCB	11104-28-2	PCB-1221 (Aroclor-1221)	1	µg/L	U	
CP10061001PC	WM-183 SR-21	0301067-02	ORG	PCB	11104-28-2	PCB-1221 (Aroclor-1221)	1	µg/L	U	UJ
CP10060601PC	WM-182 SR-19	0302054-04	ORG	PCB	11141-16-5	PCB-1232 (Aroclor-1232)	1	µg/L	U	
CP10060701PC	WM-182 SR-19	0301062-04	ORG	PCB	11141-16-5	PCB-1232 (Aroclor-1232)	1	µg/L	U	
CP10060801PC	DVB-C6	0302014-02	ORG	PCB	11141-16-5	PCB-1232 (Aroclor-1232)	1	µg/L	U	
CP10060901PC	WM-183 SR-21	0302054-12	ORG	PCB	11141-16-5	PCB-1232 (Aroclor-1232)	1	µg/L	U	
CP10061001PC	WM-183 SR-21	0301067-02	ORG	PCB	11141-16-5	PCB-1232 (Aroclor-1232)	1	µg/L	U	UJ
CP10060601PC	WM-182 SR-19	0302054-04	ORG	PCB	53469-21-9	PCB-1242 (Aroclor-1242)	1	µg/L	U	
CP10060701PC	WM-182 SR-19	0301062-04	ORG	PCB	53469-21-9	PCB-1242 (Aroclor-1242)	1	µg/L	U	
CP10060801PC	DVB-C6	0302014-02	ORG	PCB	53469-21-9	PCB-1242 (Aroclor-1242)	1	µg/L	U	
CP10060901PC	WM-183 SR-21	0302054-12	ORG	PCB	53469-21-9	PCB-1242 (Aroclor-1242)	1	µg/L	U	
CP10061001PC	WM-183 SR-21	0301067-02	ORG	PCB	53469-21-9	PCB-1242 (Aroclor-1242)	1	µg/L	U	UJ
CP10060601PC	WM-182 SR-19	0302054-04	ORG	PCB	12672-29-6	PCB-1248 (Aroclor-1248)	1	µg/L	U	
CP10060701PC	WM-182 SR-19	0301062-04	ORG	PCB	12672-29-6	PCB-1248 (Aroclor-1248)	1	µg/L	U	
CP10060801PC	DVB-C6	0302014-02	ORG	PCB	12672-29-6	PCB-1248 (Aroclor-1248)	1	µg/L	U	
CP10060901PC	WM-183 SR-21	0302054-12	ORG	PCB	12672-29-6	PCB-1248 (Aroclor-1248)	1	µg/L	U	
CP10061001PC	WM-183 SR-21	0301067-02	ORG	PCB	12672-29-6	PCB-1248 (Aroclor-1248)	1	µg/L	U	UJ
CP10060601PC	WM-182 SR-19	0302054-04	ORG	PCB	11097-69-1	PCB-1254 (Aroclor-1254)	1	µg/L	U	
CP10060701PC	WM-182 SR-19	0301062-04	ORG	PCB	11097-69-1	PCB-1254 (Aroclor-1254)	1	µg/L	U	

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Table C-3. (continued).

Field Sample ID	Location	Lab Sample ID	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag ^a	Validator Flag ^b
C-12	CP10060801PC	DVB-C6	0302014-02	ORG	PCB	11097-69-1	PCB-1254 (Aroclor-1254)	1	µg/L	U
	CP10060901PC	WM-183 SR-21	0302054-12	ORG	PCB	11097-69-1	PCB-1254 (Aroclor-1254)	1	µg/L	U
	CP10061001PC	WM-183 SR-21	0301067-02	ORG	PCB	11097-69-1	PCB-1254 (Aroclor-1254)	1	µg/L	U
	CP10060601PC	WM-182 SR-19	0302054-04	ORG	PCB	11096-82-5	PCB-1260 (Aroclor-1260)	1	µg/L	U
	CP10060701PC	WM-182 SR-19	0301062-04	ORG	PCB	11096-82-5	PCB-1260 (Aroclor-1260)	1	µg/L	U
	CP10060801PC	DVB-C6	0302014-02	ORG	PCB	11096-82-5	PCB-1260 (Aroclor-1260)	1	µg/L	U
	CP10060901PC	WM-183 SR-21	0302054-12	ORG	PCB	11096-82-5	PCB-1260 (Aroclor-1260)	1	µg/L	U
	CP10061001PC	WM-183 SR-21	0301067-02	ORG	PCB	11096-82-5	PCB-1260 (Aroclor-1260)	1	µg/L	U
	CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	92-52-4	1,1'-Biphenyl	10	µg/L	U
	CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	92-52-4	1,1'-Biphenyl	10	µg/L	U
	CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	92-52-4	1,1'-Biphenyl	10	µg/L	U
	CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	92-52-4	1,1'-Biphenyl	10	µg/L	U
	CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	92-52-4	1,1'-Biphenyl	10	µg/L	U
	CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	108-60-1	2,2'-oxybis(1-Chloropropane)	10	µg/L	U
	CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	108-60-1	2,2'-oxybis(1-Chloropropane)	10	µg/L	U
	CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	108-60-1	2,2'-oxybis(1-Chloropropane)	10	µg/L	U
	CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	108-60-1	2,2'-oxybis(1-Chloropropane)	10	µg/L	U
	CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	108-60-1	2,2'-oxybis(1-Chloropropane)	10	µg/L	U
	CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	95-95-4	2,4,5-Trichlorophenol	10	µg/L	U
	CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	95-95-4	2,4,5-Trichlorophenol	10	µg/L	U
	CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	95-95-4	2,4,5-Trichlorophenol	10	µg/L	R
	CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	95-95-4	2,4,5-Trichlorophenol	10	µg/L	U
	CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	95-95-4	2,4,5-Trichlorophenol	10	µg/L	U
	CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	88-06-2	2,4,6-Trichlorophenol	10	µg/L	U
	CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	88-06-2	2,4,6-Trichlorophenol	10	µg/L	U
	CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	88-06-2	2,4,6-Trichlorophenol	10	µg/L	R
	CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	88-06-2	2,4,6-Trichlorophenol	10	µg/L	U
	CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	88-06-2	2,4,6-Trichlorophenol	10	µg/L	U

Table C-3. (continued).

	Field Sample ID	Location	Lab Sample ID	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag ^a	Validator Flag ^b
C-13	CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	120-83-2	2,4-Dichlorophenol	10	µg/L	U	UJ
	CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	120-83-2	2,4-Dichlorophenol	10	µg/L	U	
	CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	120-83-2	2,4-Dichlorophenol	10	µg/L	U	R
	CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	120-83-2	2,4-Dichlorophenol	10	µg/L	U	UJ
	CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	120-83-2	2,4-Dichlorophenol	10	µg/L	U	
	CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	105-67-9	2,4-Dimethylphenol	10	µg/L	U	UJ
	CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	105-67-9	2,4-Dimethylphenol	10	µg/L	U	
	CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	105-67-9	2,4-Dimethylphenol	10	µg/L	U	R
	CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	105-67-9	2,4-Dimethylphenol	10	µg/L	U	UJ
	CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	105-67-9	2,4-Dimethylphenol	10	µg/L	U	
	CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	51-28-5	2,4-Dinitrophenol	10	µg/L	U	UJ
	CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	51-28-5	2,4-Dinitrophenol	10	µg/L	U	R
	CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	51-28-5	2,4-Dinitrophenol	10	µg/L	U	UJ
	CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	51-28-5	2,4-Dinitrophenol	20	µg/L	U	UJ
	CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	51-28-5	2,4-Dinitrophenol	20	µg/L	U	
	CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	121-14-2	2,4-Dinitrotoluene	10	µg/L	U	UJ
	CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	121-14-2	2,4-Dinitrotoluene	10	µg/L	U	
	CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	121-14-2	2,4-Dinitrotoluene	10	µg/L	U	
	CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	121-14-2	2,4-Dinitrotoluene	10	µg/L	U	UJ
	CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	121-14-2	2,4-Dinitrotoluene	10	µg/L	U	
	CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	606-20-2	2,6-Dinitrotoluene	10	µg/L	U	UJ
	CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	606-20-2	2,6-Dinitrotoluene	10	µg/L	U	
	CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	606-20-2	2,6-Dinitrotoluene	10	µg/L	U	
	CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	606-20-2	2,6-Dinitrotoluene	10	µg/L	U	UJ
	CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	606-20-2	2,6-Dinitrotoluene	10	µg/L	U	
	CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	91-58-7	2-Chloronaphthalene	10	µg/L	U	UJ
	CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	91-58-7	2-Chloronaphthalene	10	µg/L	U	
	CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	91-58-7	2-Chloronaphthalene	10	µg/L	U	

Table C-3. (continued).

Field Sample ID	Location	Lab Sample ID	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag ^a	Validator Flag ^b	
C-14	CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	91-58-7	2-Chloronaphthalene	10	µg/L	U	UJ
	CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	91-58-7	2-Chloronaphthalene	10	µg/L	U	
	CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	95-57-8	2-Chlorophenol	10	µg/L	U	UJ
	CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	95-57-8	2-Chlorophenol	10	µg/L	U	
	CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	95-57-8	2-Chlorophenol	10	µg/L	U	R
	CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	95-57-8	2-Chlorophenol	10	µg/L	U	UJ
	CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	95-57-8	2-Chlorophenol	10	µg/L	U	
	CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	91-57-6	2-Methylnaphthalene	10	µg/L	U	UJ
	CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	91-57-6	2-Methylnaphthalene	10	µg/L	U	
	CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	91-57-6	2-Methylnaphthalene	10	µg/L	U	
	CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	91-57-6	2-Methylnaphthalene	10	µg/L	U	UJ
	CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	91-57-6	2-Methylnaphthalene	10	µg/L	U	
	CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	95-48-7	2-Methylphenol (o-Cresol)	10	µg/L	U	UJ
	CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	95-48-7	2-Methylphenol (o-Cresol)	10	µg/L	U	
	CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	95-48-7	2-Methylphenol (o-Cresol)	10	µg/L	U	R
	CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	95-48-7	2-Methylphenol (o-Cresol)	10	µg/L	U	UJ
	CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	95-48-7	2-Methylphenol (o-Cresol)	10	µg/L	U	
	CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	88-74-4	2-Nitroaniline	10	µg/L	U	UJ
	CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	88-74-4	2-Nitroaniline	10	µg/L	U	
	CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	88-74-4	2-Nitroaniline	10	µg/L	U	
	CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	88-74-4	2-Nitroaniline	10	µg/L	U	UJ
	CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	88-74-4	2-Nitroaniline	10	µg/L	U	
	CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	88-75-5	2-Nitrophenol	1	µg/L	J	J
	CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	88-75-5	2-Nitrophenol	10	µg/L	U	UJ
	CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	88-75-5	2-Nitrophenol	10	µg/L	U	
	CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	88-75-5	2-Nitrophenol	10	µg/L	U	UJ
	CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	88-75-5	2-Nitrophenol	10	µg/L	U	
	CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	91-94-1	3,3'-Dichlorobenzidine	10	µg/L	U	UJ

Table C-3. (continued).

Field Sample ID	Location	Lab Sample ID	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag ^a	Validator Flag ^b
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	91-94-1	3,3'-Dichlorobenzidine	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	91-94-1	3,3'-Dichlorobenzidine	10	µg/L	U	
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	91-94-1	3,3'-Dichlorobenzidine	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	91-94-1	3,3'-Dichlorobenzidine	10	µg/L	U	
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	99-09-2	3-Nitroaniline	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	99-09-2	3-Nitroaniline	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	99-09-2	3-Nitroaniline	10	µg/L	U	
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	99-09-2	3-Nitroaniline	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	99-09-2	3-Nitroaniline	10	µg/L	U	
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	534-52-1	4,6-Dinitro-2-methylphenol	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	534-52-1	4,6-Dinitro-2-methylphenol	10	µg/L	U	UJ
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	534-52-1	4,6-Dinitro-2-methylphenol	10	µg/L	U	R
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	534-52-1	4,6-Dinitro-2-methylphenol	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	534-52-1	4,6-Dinitro-2-methylphenol	10	µg/L	U	UJ
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	101-55-3	4-Bromophenyl phenyl ether	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	101-55-3	4-Bromophenyl phenyl ether	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	101-55-3	4-Bromophenyl phenyl ether	10	µg/L	U	
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	101-55-3	4-Bromophenyl phenyl ether	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	101-55-3	4-Bromophenyl phenyl ether	10	µg/L	U	
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	59-50-7	4-Chloro-3-methylphenol	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	59-50-7	4-Chloro-3-methylphenol	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	59-50-7	4-Chloro-3-methylphenol	10	µg/L	U	R
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	59-50-7	4-Chloro-3-methylphenol	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	59-50-7	4-Chloro-3-methylphenol	10	µg/L	U	
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	106-47-8	4-Chloroaniline	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	106-47-8	4-Chloroaniline	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	106-47-8	4-Chloroaniline	10	µg/L	U	
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	106-47-8	4-Chloroaniline	10	µg/L	U	UJ

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Table C-3. (continued).

Field Sample ID	Location	Lab Sample ID	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag ^a	Validator Flag ^b
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	106-47-8	4-Chloroaniline	10	µg/L	U	
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	7005-72-3	4-Chlorophenyl phenyl ether	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	7005-72-3	4-Chlorophenyl phenyl ether	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	7005-72-3	4-Chlorophenyl phenyl ether	10	µg/L	U	
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	7005-72-3	4-Chlorophenyl phenyl ether	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	7005-72-3	4-Chlorophenyl phenyl ether	10	µg/L	U	
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	106-44-5	4-Methylphenol (p-Cresol)	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	106-44-5	4-Methylphenol (p-Cresol)	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	106-44-5	4-Methylphenol (p-Cresol)	10	µg/L	U	R
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	106-44-5	4-Methylphenol (p-Cresol)	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	106-44-5	4-Methylphenol (p-Cresol)	10	µg/L	U	
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	100-01-6	4-Nitroaniline	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	100-01-6	4-Nitroaniline	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	100-01-6	4-Nitroaniline	10	µg/L	U	
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	100-01-6	4-Nitroaniline	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	100-01-6	4-Nitroaniline	10	µg/L	U	
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	100-02-7	4-Nitrophenol	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	100-02-7	4-Nitrophenol	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	100-02-7	4-Nitrophenol	10	µg/L	U	R
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	100-02-7	4-Nitrophenol	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	100-02-7	4-Nitrophenol	10	µg/L	U	
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	83-32-9	Acenaphthene	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	83-32-9	Acenaphthene	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	83-32-9	Acenaphthene	10	µg/L	U	
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	83-32-9	Acenaphthene	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	83-32-9	Acenaphthene	10	µg/L	U	
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	208-96-8	Acenaphthylene	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	208-96-8	Acenaphthylene	10	µg/L	U	

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Table C-3. (continued).

Field Sample ID	Location	Lab Sample ID	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag ^a	Validator Flag ^b
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	208-96-8	Acenaphthylene	10	µg/L	U	
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	208-96-8	Acenaphthylene	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	208-96-8	Acenaphthylene	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	98-86-2	Acetophenone ^c	2.9	µg/L	J	J
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	98-86-2	Acetophenone	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	98-86-2	Acetophenone	10	µg/L	U	
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	98-86-2	Acetophenone	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	98-86-2	Acetophenone	10	µg/L	U	
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	120-12-7	Anthracene	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	120-12-7	Anthracene	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	120-12-7	Anthracene	10	µg/L	U	
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	120-12-7	Anthracene	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	120-12-7	Anthracene	10	µg/L	U	
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	1912-24-9	Atrazine	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	1912-24-9	Atrazine	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	1912-24-9	Atrazine	10	µg/L	U	
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	1912-24-9	Atrazine	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	1912-24-9	Atrazine	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	100-52-7	Benzaldehyde ^c	1.5	µg/L	J	J
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	100-52-7	Benzaldehyde	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	100-52-7	Benzaldehyde	10	µg/L	U	UJ
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	100-52-7	Benzaldehyde	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	100-52-7	Benzaldehyde	10	µg/L	U	UJ
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	56-55-3	Benzo(a)anthracene	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	56-55-3	Benzo(a)anthracene	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	56-55-3	Benzo(a)anthracene	10	µg/L	U	
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	56-55-3	Benzo(a)anthracene	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	56-55-3	Benzo(a)anthracene	10	µg/L	U	

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Table C-3. (continued).

Field Sample ID	Location	Lab Sample ID	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag ^a	Validator Flag ^b
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	50-32-8	Benzo(a)pyrene	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	50-32-8	Benzo(a)pyrene	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	50-32-8	Benzo(a)pyrene	10	µg/L	U	
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	50-32-8	Benzo(a)pyrene	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	50-32-8	Benzo(a)pyrene	10	µg/L	U	
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	205-99-2	Benzo(b)fluoranthene	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	205-99-2	Benzo(b)fluoranthene	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	205-99-2	Benzo(b)fluoranthene	10	µg/L	U	
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	205-99-2	Benzo(b)fluoranthene	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	205-99-2	Benzo(b)fluoranthene	10	µg/L	U	
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	191-24-2	Benzo(g,h,i)perylene	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	191-24-2	Benzo(g,h,i)perylene	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	191-24-2	Benzo(g,h,i)perylene	10	µg/L	U	
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	191-24-2	Benzo(g,h,i)perylene	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	191-24-2	Benzo(g,h,i)perylene	10	µg/L	U	
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	207-08-9	Benzo(k)fluoranthene	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	207-08-9	Benzo(k)fluoranthene	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	207-08-9	Benzo(k)fluoranthene	10	µg/L	U	
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	207-08-9	Benzo(k)fluoranthene	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	207-08-9	Benzo(k)fluoranthene	10	µg/L	U	
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	85-68-7	Benzyl butyl phthalate ^d	1.3	µg/L	J	J
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	85-68-7	Benzyl butyl phthalate	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	85-68-7	Benzyl butyl phthalate	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	85-68-7	Benzyl butyl phthalate	10	µg/L	U	
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	85-68-7	Benzyl butyl phthalate	10	µg/L	U	UJ
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	111-91-1	bis-(2-chloroethoxy)methane	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	111-91-1	bis-(2-chloroethoxy)methane	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	111-91-1	bis-(2-chloroethoxy)methane	10	µg/L	U	

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Table C-3. (continued).

Field Sample ID	Location	Lab Sample ID	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag ^a	Validator Flag ^b
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	111-91-1	bis-(2-chloroethoxy)methane	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	111-91-1	bis-(2-chloroethoxy)methane	10	µg/L	U	
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	111-44-4	bis-(2-Chloroethyl)ether	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	111-44-4	bis-(2-Chloroethyl)ether	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	111-44-4	bis-(2-Chloroethyl)ether	10	µg/L	U	
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	111-44-4	bis-(2-Chloroethyl)ether	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	111-44-4	bis-(2-Chloroethyl)ether	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	117-81-7	bis-(2-ethylhexyl)phthalate	4.2	µg/L	JB	U
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	117-81-7	bis-(2-ethylhexyl)phthalate	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	117-81-7	bis-(2-ethylhexyl)phthalate	10	µg/L	U	
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	117-81-7	bis-(2-ethylhexyl)phthalate	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	117-81-7	bis-(2-ethylhexyl)phthalate	10	µg/L	U	
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	105-60-2	Caprolactam	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	105-60-2	Caprolactam	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	105-60-2	Caprolactam	10	µg/L	U	
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	105-60-2	Caprolactam	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	105-60-2	Caprolactam	10	µg/L	U	
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	86-74-8	Carbazole	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	86-74-8	Carbazole	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	86-74-8	Carbazole	10	µg/L	U	
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	86-74-8	Carbazole	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	86-74-8	Carbazole	10	µg/L	U	
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	218-01-9	Chrysene	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	218-01-9	Chrysene	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	218-01-9	Chrysene	10	µg/L	U	
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	218-01-9	Chrysene	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	218-01-9	Chrysene	10	µg/L	U	
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	53-70-3	Dibenzo(a,h)anthracene	10	µg/L	U	UJ

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Table C-3. (continued).

Field Sample ID	Location	Lab Sample ID	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag ^a	Validator Flag ^b
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	53-70-3	Dibenzo(a,h)anthracene	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	53-70-3	Dibenzo(a,h)anthracene	10	µg/L	U	
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	53-70-3	Dibenzo(a,h)anthracene	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	53-70-3	Dibenzo(a,h)anthracene	10	µg/L	U	
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	132-64-9	Dibenzofuran	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	132-64-9	Dibenzofuran	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	132-64-9	Dibenzofuran	10	µg/L	U	
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	132-64-9	Dibenzofuran	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	132-64-9	Dibenzofuran	10	µg/L	U	
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	84-66-2	Diethyl Phthalate	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	84-66-2	Diethyl Phthalate	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	84-66-2	Diethyl Phthalate	10	µg/L	U	
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	84-66-2	Diethyl Phthalate	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	84-66-2	Diethyl Phthalate	10	µg/L	U	
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	131-11-3	Dimethyl phthalate	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	131-11-3	Dimethyl phthalate	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	131-11-3	Dimethyl phthalate	10	µg/L	U	
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	131-11-3	Dimethyl phthalate	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	131-11-3	Dimethyl phthalate	10	µg/L	U	
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	84-74-2	Di-n-butyl phthalate	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	84-74-2	Di-n-butyl phthalate	10	µg/L	U	
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	84-74-2	Di-n-butyl phthalate	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	84-74-2	Di-n-butyl phthalate	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	84-74-2	Di-n-butyl phthalate ^d	11.3	µg/L		
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	117-84-0	Di-n-octyl phthalate	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	117-84-0	Di-n-octyl phthalate	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	117-84-0	Di-n-octyl phthalate	10	µg/L	U	
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	117-84-0	Di-n-octyl phthalate	10	µg/L	U	UJ

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Table C-3. (continued).

Field Sample ID	Location	Lab Sample ID	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag ^a	Validator Flag ^b
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	117-84-0	Di-n-octyl phthalate	10	µg/L	U	
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	206-44-0	Fluoranthene	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	206-44-0	Fluoranthene	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	206-44-0	Fluoranthene	10	µg/L	U	
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	206-44-0	Fluoranthene	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	206-44-0	Fluoranthene	10	µg/L	U	
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	86-73-7	Fluorene	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	86-73-7	Fluorene	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	86-73-7	Fluorene	10	µg/L	U	
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	86-73-7	Fluorene	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	86-73-7	Fluorene	10	µg/L	U	
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	118-74-1	Hexachlorobenzene	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	118-74-1	Hexachlorobenzene	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	118-74-1	Hexachlorobenzene	10	µg/L	U	
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	118-74-1	Hexachlorobenzene	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	118-74-1	Hexachlorobenzene	10	µg/L	U	
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	87-68-3	Hexachlorobutadiene	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	87-68-3	Hexachlorobutadiene	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	87-68-3	Hexachlorobutadiene	10	µg/L	U	
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	87-68-3	Hexachlorobutadiene	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	87-68-3	Hexachlorobutadiene	10	µg/L	U	
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	77-47-4	Hexachlorocyclopentadiene	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	77-47-4	Hexachlorocyclopentadiene	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	77-47-4	Hexachlorocyclopentadiene	10	µg/L	U	
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	77-47-4	Hexachlorocyclopentadiene	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	77-47-4	Hexachlorocyclopentadiene	10	µg/L	U	
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	67-72-1	Hexachloroethane	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	67-72-1	Hexachloroethane	10	µg/L	U	

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Table C-3. (continued).

Field Sample ID	Location	Lab Sample ID	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag ^a	Validator Flag ^b
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	67-72-1	Hexachloroethane	10	µg/L	U	
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	67-72-1	Hexachloroethane	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	67-72-1	Hexachloroethane	10	µg/L	U	
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	193-39-5	Indeno(1,2,3-cd)pyrene	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	193-39-5	Indeno(1,2,3-cd)pyrene	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	193-39-5	Indeno(1,2,3-cd)pyrene	10	µg/L	U	
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	193-39-5	Indeno(1,2,3-cd)pyrene	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	193-39-5	Indeno(1,2,3-cd)pyrene	10	µg/L	U	
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	78-59-1	Isophorone	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	78-59-1	Isophorone	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	78-59-1	Isophorone	10	µg/L	U	
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	78-59-1	Isophorone	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	78-59-1	Isophorone	10	µg/L	U	
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	91-20-3	Naphthalene	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	91-20-3	Naphthalene	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	91-20-3	Naphthalene	10	µg/L	U	
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	91-20-3	Naphthalene	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	91-20-3	Naphthalene	10	µg/L	U	
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	98-95-3	Nitrobenzene	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	98-95-3	Nitrobenzene	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	98-95-3	Nitrobenzene	10	µg/L	U	
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	98-95-3	Nitrobenzene	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	98-95-3	Nitrobenzene	10	µg/L	U	
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	62-75-9	n-Nitrosodimethylamine	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	62-75-9	n-Nitrosodimethylamine	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	62-75-9	n-Nitrosodimethylamine	10	µg/L	U	
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	62-75-9	n-Nitrosodimethylamine	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	62-75-9	n-Nitrosodimethylamine	10	µg/L	U	

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Table C-3. (continued).

Field Sample ID	Location	Lab Sample ID	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag ^a	Validator Flag ^b
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	621-64-7	n-Nitrosodi-n-propylamine	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	621-64-7	n-Nitrosodi-n-propylamine	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	621-64-7	n-Nitrosodi-n-propylamine	10	µg/L	U	
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	621-64-7	n-Nitrosodi-n-propylamine	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	621-64-7	n-Nitrosodi-n-propylamine	10	µg/L	U	
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	86-30-6	n-Nitrosodiphenylamine	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	86-30-6	n-Nitrosodiphenylamine	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	86-30-6	n-Nitrosodiphenylamine	10	µg/L	U	
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	86-30-6	n-Nitrosodiphenylamine	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	86-30-6	n-Nitrosodiphenylamine	10	µg/L	U	
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	87-86-5	Pentachlorophenol	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	87-86-5	Pentachlorophenol	10	µg/L	U	R
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	87-86-5	Pentachlorophenol	10	µg/L	U	
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	87-86-5	Pentachlorophenol	20	µg/L	U	UJ
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	87-86-5	Pentachlorophenol	20	µg/L	U	UJ
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	85-01-8	Phenanthrene	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	85-01-8	Phenanthrene	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	85-01-8	Phenanthrene	10	µg/L	U	
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	85-01-8	Phenanthrene	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	85-01-8	Phenanthrene	10	µg/L	U	
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	108-95-2	Phenol	1.2	µg/L	J	J
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	108-95-2	Phenol	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	108-95-2	Phenol	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	108-95-2	Phenol	10	µg/L	U	R
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	108-95-2	Phenol	10	µg/L	U	UJ
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	129-00-0	Pyrene	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	129-00-0	Pyrene	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	129-00-0	Pyrene	10	µg/L	U	

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Table C-3. (continued).

Field Sample ID	Location	Lab Sample ID	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag ^a	Validator Flag ^b
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	129-00-0	Pyrene	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	129-00-0	Pyrene	10	µg/L	U	
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	110-86-1	Pyridine	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	110-86-1	Pyridine	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	110-86-1	Pyridine	10	µg/L	U	
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	110-86-1	Pyridine	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	110-86-1	Pyridine	10	µg/L	U	
CP10060801SV	DVB-C6	0302014-01	ORG	SVOC	126-73-8	tri-n-butyl phosphate	2.3	µg/L	J	J
CP10060601SV	WM-182 SR-19	0302054-03	ORG	SVOC	126-73-8	tri-n-butyl phosphate	10	µg/L	U	UJ
CP10060701SV	WM-182 SR-19	0301062-03	ORG	SVOC	126-73-8	tri-n-butyl phosphate	10	µg/L	U	
CP10060901SV	WM-183 SR-21	0302054-11	ORG	SVOC	126-73-8	tri-n-butyl phosphate	10	µg/L	U	UJ
CP10061001SV	WM-183 SR-21	0301067-01	ORG	SVOC	126-73-8	tri-n-butyl phosphate	10	µg/L	U	
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	71-55-6	1,1,1-Trichloroethane	10	µg/L	U	
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	71-55-6	1,1,1-Trichloroethane	10	µg/L	U	
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	71-55-6	1,1,1-Trichloroethane	10	µg/L	U	R
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	71-55-6	1,1,1-Trichloroethane	10	µg/L	U	
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	71-55-6	1,1,1-Trichloroethane	10	µg/L	U	
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	71-55-6	1,1,1-Trichloroethane	10	µg/L	U	
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	71-55-6	1,1,1-Trichloroethane	10	µg/L	U	
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	71-55-6	1,1,1-Trichloroethane	10	µg/L	U	R
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	71-55-6	1,1,1-Trichloroethane	10	µg/L	U	
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	71-55-6	1,1,1-Trichloroethane	50	µg/L	U	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	71-55-6	1,1,1-Trichloroethane	100	µg/L	U	
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	71-55-6	1,1,1-Trichloroethane	100	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	71-55-6	1,1,1-Trichloroethane	100	µg/L	U	
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	79-34-5	1,1,2,2-Tetrachloroethane	10	µg/L	U	
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	79-34-5	1,1,2,2-Tetrachloroethane	10	µg/L	U	
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	79-34-5	1,1,2,2-Tetrachloroethane	10	µg/L	U	R

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Table C-3. (continued).

Field Sample ID	Location	Lab Sample ID	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag ^a	Validator Flag ^b
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	79-34-5	1,1,2,2-Tetrachloroethane	10	µg/L	U	
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	79-34-5	1,1,2,2-Tetrachloroethane	10	µg/L	U	
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	79-34-5	1,1,2,2-Tetrachloroethane	10	µg/L	U	
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	79-34-5	1,1,2,2-Tetrachloroethane	10	µg/L	U	
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	79-34-5	1,1,2,2-Tetrachloroethane	10	µg/L	U	R
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	79-34-5	1,1,2,2-Tetrachloroethane	10	µg/L	U	
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	79-34-5	1,1,2,2-Tetrachloroethane	50	µg/L	U	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	79-34-5	1,1,2,2-Tetrachloroethane	100	µg/L	U	
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	79-34-5	1,1,2,2-Tetrachloroethane	100	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	79-34-5	1,1,2,2-Tetrachloroethane	100	µg/L	U	
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	79-00-5	1,1,2-Trichloroethane	10	µg/L	U	
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	79-00-5	1,1,2-Trichloroethane	10	µg/L	U	
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	79-00-5	1,1,2-Trichloroethane	10	µg/L	U	R
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	79-00-5	1,1,2-Trichloroethane	10	µg/L	U	
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	79-00-5	1,1,2-Trichloroethane	10	µg/L	U	
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	79-00-5	1,1,2-Trichloroethane	10	µg/L	U	
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	79-00-5	1,1,2-Trichloroethane	10	µg/L	U	
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	79-00-5	1,1,2-Trichloroethane	10	µg/L	U	R
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	79-00-5	1,1,2-Trichloroethane	10	µg/L	U	
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	79-00-5	1,1,2-Trichloroethane	50	µg/L	U	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	79-00-5	1,1,2-Trichloroethane	100	µg/L	U	
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	79-00-5	1,1,2-Trichloroethane	100	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	79-00-5	1,1,2-Trichloroethane	100	µg/L	U	
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	75-35-4	1,1-Dichloroethene	10	µg/L	U	
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	75-35-4	1,1-Dichloroethene	10	µg/L	U	
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	75-35-4	1,1-Dichloroethene	10	µg/L	U	R
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	75-35-4	1,1-Dichloroethene	10	µg/L	U	
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	75-35-4	1,1-Dichloroethene	10	µg/L	U	

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Table C-3. (continued).

Field Sample ID	Location	Lab Sample ID	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag ^a	Validator Flag ^b
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	75-35-4	1,1-Dichloroethene	10	µg/L	U	
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	75-35-4	1,1-Dichloroethene	10	µg/L	U	
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	75-35-4	1,1-Dichloroethene	10	µg/L	U	R
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	75-35-4	1,1-Dichloroethene	10	µg/L	U	
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	75-35-4	1,1-Dichloroethene	50	µg/L	U	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	75-35-4	1,1-Dichloroethene	100	µg/L	U	
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	75-35-4	1,1-Dichloroethene	100	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	75-35-4	1,1-Dichloroethene	100	µg/L	U	
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	120-82-1	1,2,4-Trichlorobenzene	10	µg/L	U	
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	120-82-1	1,2,4-Trichlorobenzene	10	µg/L	U	
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	120-82-1	1,2,4-Trichlorobenzene	10	µg/L	U	R
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	120-82-1	1,2,4-Trichlorobenzene	10	µg/L	U	
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	120-82-1	1,2,4-Trichlorobenzene	10	µg/L	U	
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	120-82-1	1,2,4-Trichlorobenzene	10	µg/L	U	
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	120-82-1	1,2,4-Trichlorobenzene	10	µg/L	U	
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	120-82-1	1,2,4-Trichlorobenzene	10	µg/L	U	R
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	120-82-1	1,2,4-Trichlorobenzene	10	µg/L	U	
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	120-82-1	1,2,4-Trichlorobenzene	50	µg/L	U	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	120-82-1	1,2,4-Trichlorobenzene	100	µg/L	U	
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	120-82-1	1,2,4-Trichlorobenzene	100	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	120-82-1	1,2,4-Trichlorobenzene	100	µg/L	U	
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	96-12-8	1,2-Dibromo-3-chloropropane	10	µg/L	U	
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	96-12-8	1,2-Dibromo-3-chloropropane	10	µg/L	U	
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	96-12-8	1,2-Dibromo-3-chloropropane	10	µg/L	U	R
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	96-12-8	1,2-Dibromo-3-chloropropane	10	µg/L	U	
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	96-12-8	1,2-Dibromo-3-chloropropane	10	µg/L	U	
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	96-12-8	1,2-Dibromo-3-chloropropane	10	µg/L	U	
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	96-12-8	1,2-Dibromo-3-chloropropane	10	µg/L	U	

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Table C-3. (continued).

Field Sample ID	Location	Lab Sample ID	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag ^a	Validator Flag ^b
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	96-12-8	1,2-Dibromo-3-chloropropane	10	µg/L	U	R
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	96-12-8	1,2-Dibromo-3-chloropropane	10	µg/L	U	
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	96-12-8	1,2-Dibromo-3-chloropropane	50	µg/L	U	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	96-12-8	1,2-Dibromo-3-chloropropane	100	µg/L	U	
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	96-12-8	1,2-Dibromo-3-chloropropane	100	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	96-12-8	1,2-Dibromo-3-chloropropane	100	µg/L	U	
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	106-93-4	1,2-Dibromoethane	10	µg/L	U	
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	106-93-4	1,2-Dibromoethane	10	µg/L	U	
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	106-93-4	1,2-Dibromoethane	10	µg/L	U	R
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	106-93-4	1,2-Dibromoethane	10	µg/L	U	
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	106-93-4	1,2-Dibromoethane	10	µg/L	U	
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	106-93-4	1,2-Dibromoethane	10	µg/L	U	
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	106-93-4	1,2-Dibromoethane	10	µg/L	U	
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	106-93-4	1,2-Dibromoethane	10	µg/L	U	R
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	106-93-4	1,2-Dibromoethane	10	µg/L	U	
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	106-93-4	1,2-Dibromoethane	50	µg/L	U	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	106-93-4	1,2-Dibromoethane	100	µg/L	U	
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	106-93-4	1,2-Dibromoethane	100	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	106-93-4	1,2-Dibromoethane	100	µg/L	U	
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	95-50-1	1,2-Dichlorobenzene	10	µg/L	U	
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	95-50-1	1,2-Dichlorobenzene	10	µg/L	U	
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	95-50-1	1,2-Dichlorobenzene	10	µg/L	U	R
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	95-50-1	1,2-Dichlorobenzene	10	µg/L	U	
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	95-50-1	1,2-Dichlorobenzene	10	µg/L	U	
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	95-50-1	1,2-Dichlorobenzene	10	µg/L	U	
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	95-50-1	1,2-Dichlorobenzene	10	µg/L	U	
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	95-50-1	1,2-Dichlorobenzene	10	µg/L	U	R
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	95-50-1	1,2-Dichlorobenzene	10	µg/L	U	

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Table C-3. (continued).

Field Sample ID	Location	Lab Sample ID	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag ^a	Validator Flag ^b
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	95-50-1	1,2-Dichlorobenzene	50	µg/L	U	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	95-50-1	1,2-Dichlorobenzene	100	µg/L	U	
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	95-50-1	1,2-Dichlorobenzene	100	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	95-50-1	1,2-Dichlorobenzene	100	µg/L	U	
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	78-87-5	1,2-Dichloropropane	10	µg/L	U	
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	78-87-5	1,2-Dichloropropane	10	µg/L	U	
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	78-87-5	1,2-Dichloropropane	10	µg/L	U	R
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	78-87-5	1,2-Dichloropropane	10	µg/L	U	
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	78-87-5	1,2-Dichloropropane	10	µg/L	U	
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	78-87-5	1,2-Dichloropropane	10	µg/L	U	
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	78-87-5	1,2-Dichloropropane	10	µg/L	U	
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	78-87-5	1,2-Dichloropropane	10	µg/L	U	R
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	78-87-5	1,2-Dichloropropane	10	µg/L	U	
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	78-87-5	1,2-Dichloropropane	50	µg/L	U	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	78-87-5	1,2-Dichloropropane	100	µg/L	U	
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	78-87-5	1,2-Dichloropropane	100	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	78-87-5	1,2-Dichloropropane	100	µg/L	U	
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	541-73-1	1,3-Dichlorobenzene	10	µg/L	U	
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	541-73-1	1,3-Dichlorobenzene	10	µg/L	U	
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	541-73-1	1,3-Dichlorobenzene	10	µg/L	U	R
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	541-73-1	1,3-Dichlorobenzene	10	µg/L	U	
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	541-73-1	1,3-Dichlorobenzene	10	µg/L	U	
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	541-73-1	1,3-Dichlorobenzene	10	µg/L	U	
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	541-73-1	1,3-Dichlorobenzene	10	µg/L	U	
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	541-73-1	1,3-Dichlorobenzene	10	µg/L	U	R
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	541-73-1	1,3-Dichlorobenzene	10	µg/L	U	
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	541-73-1	1,3-Dichlorobenzene	50	µg/L	U	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	541-73-1	1,3-Dichlorobenzene	100	µg/L	U	

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Table C-3. (continued).

Field Sample ID	Location	Lab Sample ID	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag ^a	Validator Flag ^b
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	541-73-1	1,3-Dichlorobenzene	100	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	541-73-1	1,3-Dichlorobenzene	100	µg/L	U	
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	106-46-7	1,4-Dichlorobenzene	10	µg/L	U	
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	106-46-7	1,4-Dichlorobenzene	10	µg/L	U	
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	106-46-7	1,4-Dichlorobenzene	10	µg/L	U	R
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	106-46-7	1,4-Dichlorobenzene	10	µg/L	U	
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	106-46-7	1,4-Dichlorobenzene	10	µg/L	U	
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	106-46-7	1,4-Dichlorobenzene	10	µg/L	U	
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	106-46-7	1,4-Dichlorobenzene	10	µg/L	U	
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	106-46-7	1,4-Dichlorobenzene	10	µg/L	U	R
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	106-46-7	1,4-Dichlorobenzene	10	µg/L	U	
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	106-46-7	1,4-Dichlorobenzene	50	µg/L	U	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	106-46-7	1,4-Dichlorobenzene	100	µg/L	U	
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	106-46-7	1,4-Dichlorobenzene	100	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	106-46-7	1,4-Dichlorobenzene	100	µg/L	U	
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	78-93-3	2-Butanone	10	µg/L	U	
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	78-93-3	2-Butanone	10	µg/L	U	
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	78-93-3	2-Butanone	10	µg/L	U	R
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	78-93-3	2-Butanone	10	µg/L	U	
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	78-93-3	2-Butanone	10	µg/L	U	
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	78-93-3	2-Butanone	10	µg/L	U	
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	78-93-3	2-Butanone	10	µg/L	U	
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	78-93-3	2-Butanone	10	µg/L	U	R
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	78-93-3	2-Butanone	10	µg/L	U	
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	78-93-3	2-Butanone	50	µg/L	U	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	78-93-3	2-Butanone	100	µg/L	U	
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	78-93-3	2-Butanone	100	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	78-93-3	2-Butanone	100	µg/L	U	

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Table C-3. (continued).

Field Sample ID	Location	Lab Sample ID	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag ^a	Validator Flag ^b
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	591-78-6	2-Hexanone	7.6	µg/L	J	J
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	591-78-6	2-Hexanone	10	µg/L	U	
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	591-78-6	2-Hexanone	10	µg/L	U	
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	591-78-6	2-Hexanone	10	µg/L	U	
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	591-78-6	2-Hexanone	10	µg/L	U	
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	591-78-6	2-Hexanone	10	µg/L	U	
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	591-78-6	2-Hexanone	10	µg/L	U	
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	591-78-6	2-Hexanone	10	µg/L	U	R
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	591-78-6	2-Hexanone	10	µg/L	U	
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	591-78-6	2-Hexanone	50	µg/L	U	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	591-78-6	2-Hexanone	100	µg/L	U	
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	591-78-6	2-Hexanone	100	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	591-78-6	2-Hexanone	100	µg/L	U	
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	108-10-1	4-Methyl-2-pentanone	10	µg/L	U	
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	108-10-1	4-Methyl-2-pentanone	10	µg/L	U	
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	108-10-1	4-Methyl-2-pentanone	10	µg/L	U	R
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	108-10-1	4-Methyl-2-pentanone	10	µg/L	U	
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	108-10-1	4-Methyl-2-pentanone	10	µg/L	U	
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	108-10-1	4-Methyl-2-pentanone	10	µg/L	U	
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	108-10-1	4-Methyl-2-pentanone	10	µg/L	U	
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	108-10-1	4-Methyl-2-pentanone	10	µg/L	U	R
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	108-10-1	4-Methyl-2-pentanone	10	µg/L	U	
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	108-10-1	4-Methyl-2-pentanone	50	µg/L	U	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	108-10-1	4-Methyl-2-pentanone	100	µg/L	U	
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	108-10-1	4-Methyl-2-pentanone	100	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	108-10-1	4-Methyl-2-pentanone	100	µg/L	U	
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	67-64-1	Acetone	10	µg/L	U	
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	67-64-1	Acetone	10	µg/L	U	

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Table C-3. (continued).

Field Sample ID	Location	Lab Sample ID	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag ^a	Validator Flag ^b
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	67-64-1	Acetone	10	µg/L	U	R
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	67-64-1	Acetone	21.2	µg/L	DJ	
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	67-64-1	Acetone	30.9	µg/L		U
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	67-64-1	Acetone	65.7	µg/L		J
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	67-64-1	Acetone	100	µg/L	U	
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	67-64-1	Acetone	232	µg/L	E	U
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	67-64-1	Acetone	294	µg/L	D	
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	67-64-1	Acetone	295	µg/L	E	J
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	67-64-1	Acetone	614	µg/L	D	
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	67-64-1	Acetone	1360	µg/L	E	J
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	67-64-1	Acetone	10100	µg/L	E	J
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	71-43-2	Benzene	10	µg/L	U	
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	71-43-2	Benzene	10	µg/L	U	
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	71-43-2	Benzene	10	µg/L	U	R
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	71-43-2	Benzene	10	µg/L	U	
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	71-43-2	Benzene	10	µg/L	U	
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	71-43-2	Benzene	10	µg/L	U	
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	71-43-2	Benzene	10	µg/L	U	
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	71-43-2	Benzene	10	µg/L	U	R
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	71-43-2	Benzene	10	µg/L	U	
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	71-43-2	Benzene	50	µg/L	U	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	71-43-2	Benzene	100	µg/L	U	
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	71-43-2	Benzene	100	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	71-43-2	Benzene	100	µg/L	U	
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	75-27-4	Bromodichloromethane	10	µg/L	U	
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	75-27-4	Bromodichloromethane	10	µg/L	U	
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	75-27-4	Bromodichloromethane	10	µg/L	U	R
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	75-27-4	Bromodichloromethane	10	µg/L	U	

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Table C-3. (continued).

Field Sample ID	Location	Lab Sample ID	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag ^a	Validator Flag ^b
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	75-27-4	Bromodichloromethane	10	µg/L	U	
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	75-27-4	Bromodichloromethane	10	µg/L	U	
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	75-27-4	Bromodichloromethane	10	µg/L	U	
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	75-27-4	Bromodichloromethane	10	µg/L	U	R
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	75-27-4	Bromodichloromethane	10	µg/L	U	
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	75-27-4	Bromodichloromethane	50	µg/L	U	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	75-27-4	Bromodichloromethane	100	µg/L	U	
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	75-27-4	Bromodichloromethane	100	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	75-27-4	Bromodichloromethane	100	µg/L	U	
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	75-25-2	Bromoform	10	µg/L	U	
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	75-25-2	Bromoform	10	µg/L	U	
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	75-25-2	Bromoform	10	µg/L	U	R
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	75-25-2	Bromoform	10	µg/L	U	
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	75-25-2	Bromoform	10	µg/L	U	
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	75-25-2	Bromoform	10	µg/L	U	
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	75-25-2	Bromoform	10	µg/L	U	
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	75-25-2	Bromoform	10	µg/L	U	R
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	75-25-2	Bromoform	10	µg/L	U	
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	75-25-2	Bromoform	50	µg/L	U	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	75-25-2	Bromoform	100	µg/L	U	
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	75-25-2	Bromoform	100	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	75-25-2	Bromoform	100	µg/L	U	
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	74-83-9	Bromomethane	10	µg/L	U	UJ
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	74-83-9	Bromomethane	10	µg/L	U	
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	74-83-9	Bromomethane	10	µg/L	U	R
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	74-83-9	Bromomethane	10	µg/L	U	UJ
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	74-83-9	Bromomethane	10	µg/L	U	
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	74-83-9	Bromomethane	10	µg/L	U	

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Table C-3. (continued).

Field Sample ID	Location	Lab Sample ID	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag ^a	Validator Flag ^b
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	74-83-9	Bromomethane	10	µg/L	U	
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	74-83-9	Bromomethane	10	µg/L	U	R
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	74-83-9	Bromomethane	10	µg/L	U	UJ
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	74-83-9	Bromomethane	50	µg/L	U	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	74-83-9	Bromomethane	100	µg/L	U	
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	74-83-9	Bromomethane	100	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	74-83-9	Bromomethane	100	µg/L	U	
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	75-15-0	Carbon disulfide	10	µg/L	U	
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	75-15-0	Carbon disulfide	10	µg/L	U	
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	75-15-0	Carbon disulfide	10	µg/L	U	R
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	75-15-0	Carbon disulfide	10	µg/L	U	
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	75-15-0	Carbon disulfide	10	µg/L	U	
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	75-15-0	Carbon disulfide	10	µg/L	U	
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	75-15-0	Carbon disulfide	10	µg/L	U	
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	75-15-0	Carbon disulfide	10	µg/L	U	R
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	75-15-0	Carbon disulfide	10	µg/L	U	
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	75-15-0	Carbon disulfide	50	µg/L	U	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	75-15-0	Carbon disulfide	100	µg/L	U	
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	75-15-0	Carbon disulfide	100	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	75-15-0	Carbon disulfide	100	µg/L	U	
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	56-23-5	Carbon tetrachloride	10	µg/L	U	
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	56-23-5	Carbon tetrachloride	10	µg/L	U	
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	56-23-5	Carbon tetrachloride	10	µg/L	U	R
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	56-23-5	Carbon tetrachloride	10	µg/L	U	
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	56-23-5	Carbon tetrachloride	10	µg/L	U	
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	56-23-5	Carbon tetrachloride	10	µg/L	U	
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	56-23-5	Carbon tetrachloride	10	µg/L	U	
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	56-23-5	Carbon tetrachloride	10	µg/L	U	R

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Table C-3. (continued).

Field Sample ID	Location	Lab Sample ID	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag ^a	Validator Flag ^b
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	56-23-5	Carbon tetrachloride	10	µg/L	U	
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	56-23-5	Carbon tetrachloride	50	µg/L	U	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	56-23-5	Carbon tetrachloride	100	µg/L	U	
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	56-23-5	Carbon tetrachloride	100	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	56-23-5	Carbon tetrachloride	100	µg/L	U	
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	108-90-7	Chlorobenzene	10	µg/L	U	
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	108-90-7	Chlorobenzene	10	µg/L	U	
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	108-90-7	Chlorobenzene	10	µg/L	U	R
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	108-90-7	Chlorobenzene	10	µg/L	U	
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	108-90-7	Chlorobenzene	10	µg/L	U	
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	108-90-7	Chlorobenzene	10	µg/L	U	
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	108-90-7	Chlorobenzene	10	µg/L	U	
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	108-90-7	Chlorobenzene	10	µg/L	U	R
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	108-90-7	Chlorobenzene	10	µg/L	U	
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	108-90-7	Chlorobenzene	50	µg/L	U	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	108-90-7	Chlorobenzene	100	µg/L	U	
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	108-90-7	Chlorobenzene	100	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	108-90-7	Chlorobenzene	100	µg/L	U	
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	75-00-3	Chloroethane	10	µg/L	U	
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	75-00-3	Chloroethane	10	µg/L	U	
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	75-00-3	Chloroethane	10	µg/L	U	R
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	75-00-3	Chloroethane	10	µg/L	U	
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	75-00-3	Chloroethane	10	µg/L	U	
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	75-00-3	Chloroethane	10	µg/L	U	
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	75-00-3	Chloroethane	10	µg/L	U	
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	75-00-3	Chloroethane	10	µg/L	U	R
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	75-00-3	Chloroethane	10	µg/L	U	
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	75-00-3	Chloroethane	50	µg/L	U	

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Table C-3. (continued).

Field Sample ID	Location	Lab Sample ID	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag ^a	Validator Flag ^b
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	75-00-3	Chloroethane	100	µg/L	U	
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	75-00-3	Chloroethane	100	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	75-00-3	Chloroethane	100	µg/L	U	
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	67-66-3	Chloroform	10	µg/L	U	
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	67-66-3	Chloroform	10	µg/L	U	
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	67-66-3	Chloroform	10	µg/L	U	R
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	67-66-3	Chloroform	10	µg/L	U	
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	67-66-3	Chloroform	10	µg/L	U	
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	67-66-3	Chloroform	10	µg/L	U	
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	67-66-3	Chloroform	10	µg/L	U	
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	67-66-3	Chloroform	10	µg/L	U	R
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	67-66-3	Chloroform	10	µg/L	U	
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	67-66-3	Chloroform	50	µg/L	U	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	67-66-3	Chloroform	100	µg/L	U	
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	67-66-3	Chloroform	100	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	67-66-3	Chloroform	100	µg/L	U	
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	74-87-3	Chloromethane	10	µg/L	U	
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	74-87-3	Chloromethane	10	µg/L	U	
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	74-87-3	Chloromethane	10	µg/L	U	R
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	74-87-3	Chloromethane	10	µg/L	U	
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	74-87-3	Chloromethane	10	µg/L	U	
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	74-87-3	Chloromethane	10	µg/L	U	
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	74-87-3	Chloromethane	10	µg/L	U	
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	74-87-3	Chloromethane	10	µg/L	U	R
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	74-87-3	Chloromethane	10	µg/L	U	
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	74-87-3	Chloromethane	50	µg/L	U	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	74-87-3	Chloromethane	100	µg/L	U	
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	74-87-3	Chloromethane	100	µg/L	U	

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Table C-3. (continued).

Field Sample ID	Location	Lab Sample ID	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag ^a	Validator Flag ^b
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	74-87-3	Chloromethane	100	µg/L	U	
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	156-59-2	cis-1,2-Dichloroethene	10	µg/L	U	
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	156-59-2	cis-1,2-Dichloroethene	10	µg/L	U	
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	156-59-2	cis-1,2-Dichloroethene	10	µg/L	U	R
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	156-59-2	cis-1,2-Dichloroethene	10	µg/L	U	
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	156-59-2	cis-1,2-Dichloroethene	10	µg/L	U	
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	156-59-2	cis-1,2-Dichloroethene	10	µg/L	U	
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	156-59-2	cis-1,2-Dichloroethene	10	µg/L	U	
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	156-59-2	cis-1,2-Dichloroethene	10	µg/L	U	R
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	156-59-2	cis-1,2-Dichloroethene	10	µg/L	U	
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	156-59-2	cis-1,2-Dichloroethene	50	µg/L	U	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	156-59-2	cis-1,2-Dichloroethene	100	µg/L	U	
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	156-59-2	cis-1,2-Dichloroethene	100	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	156-59-2	cis-1,2-Dichloroethene	100	µg/L	U	
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	10061-01-5	cis-1,3-Dichloropropene	10	µg/L	U	
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	10061-01-5	cis-1,3-Dichloropropene	10	µg/L	U	
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	10061-01-5	cis-1,3-Dichloropropene	10	µg/L	U	R
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	10061-01-5	cis-1,3-Dichloropropene	10	µg/L	U	
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	10061-01-5	cis-1,3-Dichloropropene	10	µg/L	U	
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	10061-01-5	cis-1,3-Dichloropropene	10	µg/L	U	
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	10061-01-5	cis-1,3-Dichloropropene	10	µg/L	U	
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	10061-01-5	cis-1,3-Dichloropropene	10	µg/L	U	R
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	10061-01-5	cis-1,3-Dichloropropene	10	µg/L	U	
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	10061-01-5	cis-1,3-Dichloropropene	50	µg/L	U	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	10061-01-5	cis-1,3-Dichloropropene	100	µg/L	U	
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	10061-01-5	cis-1,3-Dichloropropene	100	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	10061-01-5	cis-1,3-Dichloropropene	100	µg/L	U	
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	110-82-7	Cyclohexane	3.9	µg/L	J	J

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Table C-3. (continued).

Field Sample ID	Location	Lab Sample ID	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag ^a	Validator Flag ^b
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	110-82-7	Cyclohexane	4.3	µg/L	J	J
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	110-82-7	Cyclohexane	10	µg/L	U	
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	110-82-7	Cyclohexane	10	µg/L	U	R
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	110-82-7	Cyclohexane	10	µg/L	U	
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	110-82-7	Cyclohexane	10	µg/L	U	
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	110-82-7	Cyclohexane	10	µg/L	U	
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	110-82-7	Cyclohexane	10	µg/L	U	R
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	110-82-7	Cyclohexane	10	µg/L	U	
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	110-82-7	Cyclohexane	50	µg/L	U	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	110-82-7	Cyclohexane	100	µg/L	U	
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	110-82-7	Cyclohexane	100	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	110-82-7	Cyclohexane	100	µg/L	U	
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	108-94-1	Cyclohexanone	3.7	µg/L	J	J
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	108-94-1	Cyclohexanone	10	µg/L	U	UJ
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	108-94-1	Cyclohexanone	10	µg/L	U	UJ
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	108-94-1	Cyclohexanone	10	µg/L	U	UJ
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	108-94-1	Cyclohexanone	10	µg/L	U	UJ
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	108-94-1	Cyclohexanone	10	µg/L	U	UJ
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	108-94-1	Cyclohexanone	10	µg/L	U	UJ
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	108-94-1	Cyclohexanone	10	µg/L	U	R
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	108-94-1	Cyclohexanone	10	µg/L	U	UJ
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	108-94-1	Cyclohexanone	50	µg/L	U	
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	108-94-1	Cyclohexanone	61.2	µg/L	DJ	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	108-94-1	Cyclohexanone	100	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	108-94-1	Cyclohexanone	100	µg/L	U	
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	124-48-1	Dibromochloromethane	10	µg/L	U	
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	124-48-1	Dibromochloromethane	10	µg/L	U	
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	124-48-1	Dibromochloromethane	10	µg/L	U	R

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Table C-3. (continued).

Field Sample ID	Location	Lab Sample ID	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag ^a	Validator Flag ^b
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	124-48-1	Dibromochloromethane	10	µg/L	U	
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	124-48-1	Dibromochloromethane	10	µg/L	U	
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	124-48-1	Dibromochloromethane	10	µg/L	U	
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	124-48-1	Dibromochloromethane	10	µg/L	U	
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	124-48-1	Dibromochloromethane	10	µg/L	U	R
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	124-48-1	Dibromochloromethane	10	µg/L	U	
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	124-48-1	Dibromochloromethane	50	µg/L	U	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	124-48-1	Dibromochloromethane	100	µg/L	U	
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	124-48-1	Dibromochloromethane	100	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	124-48-1	Dibromochloromethane	100	µg/L	U	
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	75-71-8	Dichlorodifluoromethane	2.8	µg/L	J	J
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	75-71-8	Dichlorodifluoromethane	10	µg/L	U	
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	75-71-8	Dichlorodifluoromethane	10	µg/L	U	
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	75-71-8	Dichlorodifluoromethane	10	µg/L	U	R
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	75-71-8	Dichlorodifluoromethane	10	µg/L	U	
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	75-71-8	Dichlorodifluoromethane	10	µg/L	U	
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	75-71-8	Dichlorodifluoromethane	10	µg/L	U	
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	75-71-8	Dichlorodifluoromethane	10	µg/L	U	
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	75-71-8	Dichlorodifluoromethane	10	µg/L	U	
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	75-71-8	Dichlorodifluoromethane	50	µg/L	U	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	75-71-8	Dichlorodifluoromethane	100	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	75-71-8	Dichlorodifluoromethane	100	µg/L	U	
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	75-71-8	Dichlorodifluoromethane	135	µg/L	D	
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	141-78-6	Ethyl acetate	10	µg/L	U	
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	141-78-6	Ethyl acetate	10	µg/L	U	
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	141-78-6	Ethyl acetate	10	µg/L	U	R
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	141-78-6	Ethyl acetate	10	µg/L	U	
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	141-78-6	Ethyl acetate	10	µg/L	U	

Table C-3. (continued).

Field Sample ID	Location	Lab Sample ID	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag ^a	Validator Flag ^b
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	141-78-6	Ethyl acetate	10	µg/L	U	
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	141-78-6	Ethyl acetate	10	µg/L	U	
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	141-78-6	Ethyl acetate	10	µg/L	U	R
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	141-78-6	Ethyl acetate	10	µg/L	U	
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	141-78-6	Ethyl acetate	50	µg/L	U	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	141-78-6	Ethyl acetate	100	µg/L	U	
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	141-78-6	Ethyl acetate	100	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	141-78-6	Ethyl acetate	100	µg/L	U	
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	100-41-4	Ethylbenzene	10	µg/L	U	
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	100-41-4	Ethylbenzene	10	µg/L	U	
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	100-41-4	Ethylbenzene	10	µg/L	U	R
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	100-41-4	Ethylbenzene	10	µg/L	U	
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	100-41-4	Ethylbenzene	10	µg/L	U	
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	100-41-4	Ethylbenzene	10	µg/L	U	
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	100-41-4	Ethylbenzene	10	µg/L	U	
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	100-41-4	Ethylbenzene	10	µg/L	U	R
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	100-41-4	Ethylbenzene	10	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	100-41-4	Ethylbenzene	17.4	µg/L	DJ	
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	100-41-4	Ethylbenzene	50	µg/L	U	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	100-41-4	Ethylbenzene	100	µg/L	U	
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	100-41-4	Ethylbenzene	100	µg/L	U	
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	76-13-1	Freon 113	10	µg/L	U	
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	76-13-1	Freon 113	10	µg/L	U	
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	76-13-1	Freon 113	10	µg/L	U	R
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	76-13-1	Freon 113	10	µg/L	U	
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	76-13-1	Freon 113	10	µg/L	U	
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	76-13-1	Freon 113	10	µg/L	U	
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	76-13-1	Freon 113	10	µg/L	U	

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Table C-3. (continued).

Field Sample ID	Location	Lab Sample ID	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag ^a	Validator Flag ^b
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	76-13-1	Freon 113	10	µg/L	U	R
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	76-13-1	Freon 113	10	µg/L	U	
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	76-13-1	Freon 113	50	µg/L	U	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	76-13-1	Freon 113	100	µg/L	U	
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	76-13-1	Freon 113	100	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	76-13-1	Freon 113	100	µg/L	U	
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	98-82-8	Isopropylbenzene	10	µg/L	U	
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	98-82-8	Isopropylbenzene	10	µg/L	U	
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	98-82-8	Isopropylbenzene	10	µg/L	U	R
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	98-82-8	Isopropylbenzene	10	µg/L	U	
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	98-82-8	Isopropylbenzene	10	µg/L	U	
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	98-82-8	Isopropylbenzene	10	µg/L	U	
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	98-82-8	Isopropylbenzene	10	µg/L	U	
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	98-82-8	Isopropylbenzene	10	µg/L	U	R
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	98-82-8	Isopropylbenzene	10	µg/L	U	
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	98-82-8	Isopropylbenzene	50	µg/L	U	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	98-82-8	Isopropylbenzene	100	µg/L	U	
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	98-82-8	Isopropylbenzene	100	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	98-82-8	Isopropylbenzene	100	µg/L	U	
CP10060601MT	WM-182 SR-19	0302054-02	ORG	VOC	67-56-1	Methanol	100	mg/L	U	
CP10060701MT	WM-182 SR-19	0301062-02	ORG	VOC	67-56-1	Methanol	100	mg/L	U	
CP10060801MT	DVB-C6	0302014-03	ORG	VOC	67-56-1	Methanol	100	mg/L	U	R
CP10060901MT	WM-183 SR-21	0302054-10	ORG	VOC	67-56-1	Methanol	100	mg/L	U	
CP10061001MT	WM-183 SR-21	0301067-04	ORG	VOC	67-56-1	Methanol	100	mg/L	U	
CP10061401MT	Trip Blank	0301062-09	ORG	VOC	67-56-1	Methanol	100	mg/L	U	
CP10061501MT	Trip Blank	0301067-05	ORG	VOC	67-56-1	Methanol	100	mg/L	U	
CP10062001MT	Trip Blank	0302014-06	ORG	VOC	67-56-1	Methanol	100	mg/L	U	R
CP10062101MT	Trip Blank	0302054-14	ORG	VOC	67-56-1	Methanol	100	mg/L	U	

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Table C-3. (continued).

Field Sample ID	Location	Lab Sample ID	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag ^a	Validator Flag ^b
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	79-20-9	Methyl acetate	2	µg/L	DJ	
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	79-20-9	Methyl acetate	10	µg/L	U	
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	79-20-9	Methyl acetate	10	µg/L	U	
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	79-20-9	Methyl acetate	10	µg/L	U	
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	79-20-9	Methyl acetate	10	µg/L	U	
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	79-20-9	Methyl acetate	10	µg/L	U	
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	79-20-9	Methyl acetate	10	µg/L	U	
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	79-20-9	Methyl acetate	10	µg/L	U	R
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	79-20-9	Methyl acetate	10	µg/L	U	
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	79-20-9	Methyl acetate	50	µg/L	U	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	79-20-9	Methyl acetate	100	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	79-20-9	Methyl acetate	100	µg/L	U	
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	79-20-9	Methyl acetate ^c	2300	µg/L	E	J
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	108-87-2	Methyl cyclohexane	10	µg/L	U	
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	108-87-2	Methyl cyclohexane	10	µg/L	U	
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	108-87-2	Methyl cyclohexane	10	µg/L	U	R
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	108-87-2	Methyl cyclohexane	10	µg/L	U	
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	108-87-2	Methyl cyclohexane	10	µg/L	U	
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	108-87-2	Methyl cyclohexane	10	µg/L	U	
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	108-87-2	Methyl cyclohexane	10	µg/L	U	
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	108-87-2	Methyl cyclohexane	10	µg/L	U	R
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	108-87-2	Methyl cyclohexane	10	µg/L	U	
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	108-87-2	Methyl cyclohexane	50	µg/L	U	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	108-87-2	Methyl cyclohexane	100	µg/L	U	
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	108-87-2	Methyl cyclohexane	100	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	108-87-2	Methyl cyclohexane	100	µg/L	U	
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	75-09-2	Methylene Chloride	10	µg/L	U	
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	75-09-2	Methylene Chloride	10	µg/L	U	

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Table C-3. (continued).

Field Sample ID	Location	Lab Sample ID	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag ^a	Validator Flag ^b
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	75-09-2	Methylene Chloride	10	µg/L	U	R
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	75-09-2	Methylene Chloride	10	µg/L	U	
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	75-09-2	Methylene Chloride	10	µg/L	U	
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	75-09-2	Methylene Chloride	10	µg/L	U	
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	75-09-2	Methylene Chloride	10	µg/L	U	
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	75-09-2	Methylene Chloride	10	µg/L	U	R
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	75-09-2	Methylene Chloride	10	µg/L	U	
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	75-09-2	Methylene Chloride	50	µg/L	U	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	75-09-2	Methylene Chloride	100	µg/L	U	
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	75-09-2	Methylene Chloride	100	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	75-09-2	Methylene Chloride	100	µg/L	U	
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	95-47-6	o-Xylene	10	µg/L	U	
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	95-47-6	o-Xylene	10	µg/L	U	
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	95-47-6	o-Xylene	10	µg/L	U	R
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	95-47-6	o-Xylene	10	µg/L	U	
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	95-47-6	o-Xylene	10	µg/L	U	
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	95-47-6	o-Xylene	10	µg/L	U	
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	95-47-6	o-Xylene	10	µg/L	U	
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	95-47-6	o-Xylene	10	µg/L	U	R
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	95-47-6	o-Xylene	10	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	95-47-6	o-Xylene	10.8	µg/L	DJ	
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	95-47-6	o-Xylene	50	µg/L	U	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	95-47-6	o-Xylene	100	µg/L	U	
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	95-47-6	o-Xylene	100	µg/L	U	
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	100-42-5	Styrene	10	µg/L	U	
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	100-42-5	Styrene	10	µg/L	U	
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	100-42-5	Styrene	10	µg/L	U	R
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	100-42-5	Styrene	10	µg/L	U	

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Table C-3. (continued).

Field Sample ID	Location	Lab Sample ID	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag ^a	Validator Flag ^b
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	100-42-5	Styrene	10	µg/L	U	
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	100-42-5	Styrene	10	µg/L	U	
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	100-42-5	Styrene	10	µg/L	U	
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	100-42-5	Styrene	10	µg/L	U	R
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	100-42-5	Styrene	10	µg/L	U	
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	100-42-5	Styrene	50	µg/L	U	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	100-42-5	Styrene	100	µg/L	U	
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	100-42-5	Styrene	100	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	100-42-5	Styrene	100	µg/L	U	
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	127-18-4	Tetrachloroethene	10	µg/L	U	
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	127-18-4	Tetrachloroethene	10	µg/L	U	
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	127-18-4	Tetrachloroethene	10	µg/L	U	R
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	127-18-4	Tetrachloroethene	10	µg/L	U	
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	127-18-4	Tetrachloroethene	10	µg/L	U	
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	127-18-4	Tetrachloroethene	10	µg/L	U	
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	127-18-4	Tetrachloroethene	10	µg/L	U	
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	127-18-4	Tetrachloroethene	10	µg/L	U	R
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	127-18-4	Tetrachloroethene	10	µg/L	U	
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	127-18-4	Tetrachloroethene	50	µg/L	U	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	127-18-4	Tetrachloroethene	100	µg/L	U	
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	127-18-4	Tetrachloroethene	100	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	127-18-4	Tetrachloroethene	100	µg/L	U	
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	108-88-3	Toluene	1.1	µg/L	JB	U
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	108-88-3	Toluene	10	µg/L	U	
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	108-88-3	Toluene	10	µg/L	U	R
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	108-88-3	Toluene	10	µg/L	U	
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	108-88-3	Toluene	10	µg/L	U	
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	108-88-3	Toluene	10	µg/L	U	

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Table C-3. (continued).

Field Sample ID	Location	Lab Sample ID	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag ^a	Validator Flag ^b
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	108-88-3	Toluene	10	µg/L	JB	U
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	108-88-3	Toluene	10	µg/L	U	R
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	108-88-3	Toluene	10	µg/L	U	
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	108-88-3	Toluene	50	µg/L	U	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	108-88-3	Toluene	100	µg/L	U	
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	108-88-3	Toluene	100	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	108-88-3	Toluene	100	µg/L	U	
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	156-60-5	trans-1,2-Dichloroethene	10	µg/L	U	
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	156-60-5	trans-1,2-Dichloroethene	10	µg/L	U	
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	156-60-5	trans-1,2-Dichloroethene	10	µg/L	U	R
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	156-60-5	trans-1,2-Dichloroethene	10	µg/L	U	
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	156-60-5	trans-1,2-Dichloroethene	10	µg/L	U	
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	156-60-5	trans-1,2-Dichloroethene	10	µg/L	U	
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	156-60-5	trans-1,2-Dichloroethene	10	µg/L	U	
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	156-60-5	trans-1,2-Dichloroethene	10	µg/L	U	R
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	156-60-5	trans-1,2-Dichloroethene	10	µg/L	U	
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	156-60-5	trans-1,2-Dichloroethene	50	µg/L	U	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	156-60-5	trans-1,2-Dichloroethene	100	µg/L	U	
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	156-60-5	trans-1,2-Dichloroethene	100	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	156-60-5	trans-1,2-Dichloroethene	100	µg/L	U	
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	10061-02-6	trans-1,3-Dichloropropene	10	µg/L	U	
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	10061-02-6	trans-1,3-Dichloropropene	10	µg/L	U	
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	10061-02-6	trans-1,3-Dichloropropene	10	µg/L	U	R
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	10061-02-6	trans-1,3-Dichloropropene	10	µg/L	U	
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	10061-02-6	trans-1,3-Dichloropropene	10	µg/L	U	
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	10061-02-6	trans-1,3-Dichloropropene	10	µg/L	U	
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	10061-02-6	trans-1,3-Dichloropropene	10	µg/L	U	
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	10061-02-6	trans-1,3-Dichloropropene	10	µg/L	U	R

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Table C-3. (continued).

Field Sample ID	Location	Lab Sample ID	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag ^a	Validator Flag ^b
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	10061-02-6	trans-1,3-Dichloropropene	10	µg/L	U	
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	10061-02-6	trans-1,3-Dichloropropene	50	µg/L	U	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	10061-02-6	trans-1,3-Dichloropropene	100	µg/L	U	
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	10061-02-6	trans-1,3-Dichloropropene	100	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	10061-02-6	trans-1,3-Dichloropropene	100	µg/L	U	
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	79-01-6	Trichloroethene	10	µg/L	U	
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	79-01-6	Trichloroethene	10	µg/L	U	
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	79-01-6	Trichloroethene	10	µg/L	U	R
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	79-01-6	Trichloroethene	10	µg/L	U	
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	79-01-6	Trichloroethene	10	µg/L	U	
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	79-01-6	Trichloroethene	10	µg/L	U	
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	79-01-6	Trichloroethene	10	µg/L	U	
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	79-01-6	Trichloroethene	10	µg/L	U	R
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	79-01-6	Trichloroethene	10	µg/L	U	
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	79-01-6	Trichloroethene	17.1	µg/L	DJ	
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	79-01-6	Trichloroethene	50	µg/L	U	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	79-01-6	Trichloroethene	100	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	79-01-6	Trichloroethene	100	µg/L	U	
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	75-69-4	Trichlorofluoromethane	10	µg/L	U	UJ
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	75-69-4	Trichlorofluoromethane	10	µg/L	U	UJ
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	75-69-4	Trichlorofluoromethane	10	µg/L	U	R
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	75-69-4	Trichlorofluoromethane	10	µg/L	U	UJ
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	75-69-4	Trichlorofluoromethane	10	µg/L	U	UJ
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	75-69-4	Trichlorofluoromethane	10	µg/L	U	UJ
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	75-69-4	Trichlorofluoromethane	10	µg/L	U	UJ
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	75-69-4	Trichlorofluoromethane	10	µg/L	U	R
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	75-69-4	Trichlorofluoromethane	10	µg/L	U	UJ
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	75-69-4	Trichlorofluoromethane	39.1	µg/L	DJ	

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Table C-3. (continued).

Field Sample ID	Location	Lab Sample ID	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag ^a	Validator Flag ^b
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	75-69-4	Trichlorofluoromethane	50	µg/L	U	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	75-69-4	Trichlorofluoromethane	100	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	75-69-4	Trichlorofluoromethane	100	µg/L	U	
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	75-01-4	Vinyl Chloride	10	µg/L	U	
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	75-01-4	Vinyl Chloride	10	µg/L	U	
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	75-01-4	Vinyl Chloride	10	µg/L	U	R
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	75-01-4	Vinyl Chloride	10	µg/L	U	
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	75-01-4	Vinyl Chloride	10	µg/L	U	
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	75-01-4	Vinyl Chloride	10	µg/L	U	
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	75-01-4	Vinyl Chloride	10	µg/L	U	
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	75-01-4	Vinyl Chloride	10	µg/L	U	R
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	75-01-4	Vinyl Chloride	10	µg/L	U	
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	75-01-4	Vinyl Chloride	50	µg/L	U	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	75-01-4	Vinyl Chloride	100	µg/L	U	
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	75-01-4	Vinyl Chloride	100	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	75-01-4	Vinyl Chloride	100	µg/L	U	
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	1330-20-7	Xylene, Isomers m&p	10	µg/L	U	
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	1330-20-7	Xylene, Isomers m&p	10	µg/L	U	
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	1330-20-7	Xylene, Isomers m&p	10	µg/L	U	R
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	1330-20-7	Xylene, Isomers m&p	10	µg/L	U	
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	1330-20-7	Xylene, Isomers m&p	10	µg/L	U	
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	1330-20-7	Xylene, Isomers m&p	10	µg/L	U	
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	1330-20-7	Xylene, Isomers m&p	10	µg/L	U	
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	1330-20-7	Xylene, Isomers m&p	10	µg/L	U	R
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	1330-20-7	Xylene, Isomers m&p	10	µg/L	U	
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	1330-20-7	Xylene, Isomers m&p	50	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	1330-20-7	Xylene, Isomers m&p	59.3	µg/L	DJ	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	1330-20-7	Xylene, Isomers m&p	100	µg/L	U	

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Table C-3. (continued).

Field Sample ID	Location	Lab Sample ID	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag ^a	Validator Flag ^b
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	1330-20-7	Xylene, Isomers m&p	100	µg/L	U	
CP10060601VG	WM-182 SR-19	0302054-01	ORG	VOC	1330-20-7	Xylenes	10	µg/L	U	
CP10060701VG	WM-182 SR-19	0301062-01	ORG	VOC	1330-20-7	Xylenes	10	µg/L	U	
CP10060801VG	DVB-C6	0302014-04	ORG	VOC	1330-20-7	Xylenes	10	µg/L	U	R
CP10060901VG	WM-183 SR-21	0302054-09	ORG	VOC	1330-20-7	Xylenes	10	µg/L	U	
CP10061001VG	WM-183 SR-21	0301067-03	ORG	VOC	1330-20-7	Xylenes	10	µg/L	U	
CP10061401VG	Trip Blank	0301062-08	ORG	VOC	1330-20-7	Xylenes	10	µg/L	U	
CP10061501VG	Trip Blank	0301067-06	ORG	VOC	1330-20-7	Xylenes	10	µg/L	U	
CP10062001VG	Trip Blank	0302014-05	ORG	VOC	1330-20-7	Xylenes	10	µg/L	U	R
CP10062101VG	Trip Blank	0302054-13	ORG	VOC	1330-20-7	Xylenes	10	µg/L	U	
CP10061001VGDL	WM-183 SR-21	0301067-03BDL	ORG	VOC	1330-20-7	Xylenes	50	µg/L	U	
CP10060901VGDL	WM-183 SR-21	030205-09ADL	ORG	VOC	1330-20-7	Xylenes	70.2	µg/L	DJ	
CP10060701VGDL	WM-182 SR-19	0301062-01BDL	ORG	VOC	1330-20-7	Xylenes	100	µg/L	U	
CP10060801VGDL	DVB-C6	0302014-04ADL	ORG	VOC	1330-20-7	Xylenes	100	µg/L	U	

a. Laboratory flags:

B = Analyte was present in the blank.

D = Sample was re-analyzed at a higher dilution.

E = Concentration exceeds upper limit of calibration.

J = Analyte was detected but was less than the quantitation limit.

U = Analyte was not detected. Quantitation limit is reported.

b. Validator flags:

J = Estimated

R = Rejected

U = Undetected.

c. Compound highly suspect based on its known application in the perfume industry.

d. Reported results for phthalate compounds were deemed highly suspect and not used in this DQA. Comparable levels of phthalate compounds were measured in laboratory QC sample analyses. Phthalates are ubiquitous in nature and low levels are commonly assumed to be associated with laboratory contamination.

Table C-4. Reported results for radionuclide analyses for WM-182 and WM-183 vault sums and C-6 diversion valve box.

Field Sample ID	Location	Lab Sample ID	Analysis Type	Compound	Result	Units	Uncertainty	Validator Flag ^a	MDA ^b
CP10060901X3	WM-183 SR-21	3AJ57	Gamma emitters	^{108m} Ag	-3.42E+04	pCi/L	5.10E+04	U	6.96E+04
CP10060601X3	WM-182 SR-19	3AJ52	Gamma emitters	^{108m} Ag	-5.24E+03	pCi/L	8.65E+03	U	1.36E+04
CP10060701X3	WM-182 SR-19	3AF22	Gamma emitters	^{108m} Ag	-1.52E+02	pCi/L	3.75E+03	UJ	1.57E+04
CP10061001X3	WM-183 SR-21	3AF62	Gamma emitters	^{108m} Ag	5.56E-01	pCi/L	4.64E+03	UJ	1.84E+04
CP10060801X3	DVB-C6	3AG41	Gamma emitters	^{108m} Ag	2.08E+03	pCi/L	5.67E+03	UJ	1.48E+04
CP10060901X3	WM-183 SR-21	3AJ57	Gamma emitters	^{110m} Ag	-1.16E+04	pCi/L	1.81E+04	U	2.73E+04
CP10060801X3	DVB-C6	3AG41	Gamma emitters	^{110m} Ag	-1.10E+03	pCi/L	1.87E+03	UJ	3.24E+03
CP10061001X3	WM-183 SR-21	3AF62	Gamma emitters	^{110m} Ag	1.23E+00	pCi/L	1.15E+03	UJ	4.47E+03
CP10060601X3	WM-182 SR-19	3AJ52	Gamma emitters	^{110m} Ag	1.52E+02	pCi/L	9.91E+02	U	3.91E+03
CP10060701X3	WM-182 SR-19	3AF22	Gamma emitters	^{110m} Ag	1.15E+03	pCi/L	2.57E+03	UJ	6.18E+03
CP10060701X3	WM-182 SR-19	3AF22	Gamma emitters	²⁴¹ Am	-5.31E+04	pCi/L	7.58E+04	UJ	9.18E+04
CP10060801X3	DVB-C6	3AG41	Gamma emitters	²⁴¹ Am	-1.96E+04	pCi/L	4.15E+04	UJ	4.41E+04
CP10060601X3	WM-182 SR-19	3AJ52	Gamma emitters	²⁴¹ Am	-1.14E+03	pCi/L	1.08E+04	U	4.06E+04
CP10060601X3	WM-182 SR-19	3AJ52	Alpha emitters	²⁴¹ Am	1.06E+02	pCi/L	3.53E+01	J	3.29E+01
CP10060701X3	WM-182 SR-19	3AF22	Alpha emitters	²⁴¹ Am	1.35E+02	pCi/L	4.11E+01	J	3.12E+01
CP10060901X3	WM-183 SR-21	3AJ57	Alpha emitters	²⁴¹ Am	4.83E+03	pCi/L	8.11E+02		4.49E+01
CP10060801X3	DVB-C6	3AG41	Alpha emitters	²⁴¹ Am	6.81E+03	pCi/L	1.14E+03	J	3.95E+01
CP10061001X3	WM-183 SR-21	3AF62	Gamma emitters	²⁴¹ Am	5.88E+04	pCi/L	1.47E+05	UJ	1.03E+05
CP10061001X3	WM-183 SR-21	3AF62	Alpha emitters	²⁴¹ Am	6.62E+04	pCi/L	9.68E+03	J	7.28E+01
CP10060901X3	WM-183 SR-21	3AJ57	Gamma emitters	²⁴¹ Am	1.55E+05	pCi/L	2.47E+05	U	3.80E+05
CP10060701X5	WM-182 SR-19	01E0-12-A	Special analysis	¹⁴ C	5.44E+00	pCi/L	4.20E+00	U	1.38E+01
CP10060601X5	WM-182 SR-19	01F1-01-C	Special analysis	¹⁴ C	5.83E+00	pCi/L	4.20E+00	U	1.38E+01
CP10060901X5	WM-183 SR-21	01F1-02-C	Special analysis	¹⁴ C	8.56E+00	pCi/L	4.22E+00	UJ	1.38E+01
CP10061001X5	WM-183 SR-21	01E0-16-A	Special analysis	¹⁴ C	1.69E+01	pCi/L	4.31E+00		1.38E+01
CP10060801X5	DVB-C6	01E0-14-A	Special analysis	¹⁴ C	1.81E+01	pCi/L	4.32E+00		1.38E+01

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Table C-4. (continued).

Field Sample ID	Location	Lab Sample ID	Analysis Type	Compound	Result	Units	Uncertainty	Validator Flag ^a	MDA ^b	
C-49	CP10060901X3	WM-183 SR-21	3AJ57	Gamma emitters	¹⁴⁴ Ce	-5.80E+04	pCi/L	1.31E+05	U	3.01E+05
	CP10060701X3	WM-182 SR-19	3AF22	Gamma emitters	¹⁴⁴ Ce	-1.54E+04	pCi/L	3.27E+04	UJ	7.17E+04
	CP10061001X3	WM-183 SR-21	3AF62	Gamma emitters	¹⁴⁴ Ce	-5.70E+03	pCi/L	2.46E+04	UJ	8.14E+04
	CP10060801X3	DVB-C6	3AG41	Gamma emitters	¹⁴⁴ Ce	2.04E+03	pCi/L	1.25E+04	UJ	4.29E+04
	CP10060601X3	WM-182 SR-19	3AJ52	Gamma emitters	¹⁴⁴ Ce	7.83E+03	pCi/L	1.80E+04	U	4.02E+04
	CP10060601X3	WM-182 SR-19	3AJ52	Alpha emitters	²⁴² Cm	-1.00E+00	pCi/L	1.66E+00	U	1.83E+01
	CP10060901X3	WM-183 SR-21	3AJ57	Alpha emitters	²⁴² Cm	-5.47E-01	pCi/L	9.00E-01	U	1.71E+01
	CP10060701X3	WM-182 SR-19	3AF22	Alpha emitters	²⁴² Cm	-4.90E-01	pCi/L	8.05E-01	UJ	1.53E+01
	CP10060801X3	DVB-C6	3AG41	Alpha emitters	²⁴² Cm	0.00E+00	pCi/L	0.00E+00	UJ	1.18E+01
	CP10061001X3	WM-183 SR-21	3AF62	Alpha emitters	²⁴² Cm	3.61E+01	pCi/L	1.65E+01	J	9.84E+00
	CP10060601X3	WM-182 SR-19	3AJ52	Alpha emitters	²⁴⁴ Cm	0.00E+00	pCi/L	0.00E+00	U	9.53E+00
	CP10060701X3	WM-182 SR-19	3AF22	Alpha emitters	²⁴⁴ Cm	0.00E+00	pCi/L	0.00E+00	UJ	9.29E+00
	CP10060901X3	WM-183 SR-21	3AJ57	Alpha emitters	²⁴⁴ Cm	1.10E+02	pCi/L	3.59E+01		1.99E+01
	CP10060801X3	DVB-C6	3AG41	Alpha emitters	²⁴⁴ Cm	3.99E+02	pCi/L	9.75E+01	J	1.18E+01
	CP10061001X3	WM-183 SR-21	3AF62	Alpha emitters	²⁴⁴ Cm	1.35E+03	pCi/L	2.56E+02	J	2.67E+01
	CP10060901X3	WM-183 SR-21	3AJ57	Gamma emitters	⁵⁸ Co	-2.04E+04	pCi/L	2.61E+04	U	2.06E+04
	CP10061001X3	WM-183 SR-21	3AF62	Gamma emitters	⁵⁸ Co	-1.64E+03	pCi/L	2.46E+03	UJ	3.38E+03
	CP10060701X3	WM-182 SR-19	3AF22	Gamma emitters	⁵⁸ Co	-1.18E+03	pCi/L	2.10E+03	UJ	3.88E+03
	CP10060601X3	WM-182 SR-19	3AJ52	Gamma emitters	⁵⁸ Co	-4.63E+02	pCi/L	1.04E+03	U	2.50E+03
	CP10060801X3	DVB-C6	3AG41	Gamma emitters	⁵⁸ Co	-7.84E+01	pCi/L	6.14E+02	UJ	2.39E+03
	CP10060701X3	WM-182 SR-19	3AF22	Gamma emitters	⁶⁰ Co	4.31E+01	pCi/L	9.40E+02	UJ	4.39E+03
	CP10060801X3	DVB-C6	3AG41	Gamma emitters	⁶⁰ Co	8.15E+02	pCi/L	1.39E+03	UJ	2.38E+03
	CP10060601X3	WM-182 SR-19	3AJ52	Gamma emitters	⁶⁰ Co	1.50E+03	pCi/L	2.31E+03	U	3.15E+03
	CP10061001X3	WM-183 SR-21	3AF62	Gamma emitters	⁶⁰ Co	5.56E+04	pCi/L	3.44E+03	J	2.34E+03
	CP10060901X3	WM-183 SR-21	3AJ57	Gamma emitters	⁶⁰ Co	8.66E+04	pCi/L	5.94E+03		6.54E+03
	CP10060601X3	WM-182 SR-19	3AJ52	Gamma emitters	¹³⁴ Cs	-4.86E+02	pCi/L	2.07E+03	U	7.04E+03

Table C-4. (continued).

Field Sample ID	Location	Lab Sample ID	Analysis Type	Compound	Result	Units	Uncertainty	Validator Flag ^a	MDA ^b	
C-50	CP10060701X3	WM-182 SR-19	3AF22	Gamma emitters	¹³⁴ Cs	5.00E+00	pCi/L	2.33E+03	UJ	9.56E+03
	CP10060801X3	DVB-C6	3AG41	Gamma emitters	¹³⁴ Cs	8.41E+03	pCi/L	1.05E+03	J	7.26E+03
	CP10061001X3	WM-183 SR-21	3AF62	Gamma emitters	¹³⁴ Cs	1.21E+05	pCi/L	4.24E+03	J	1.07E+04
	CP10060901X3	WM-183 SR-21	3AJ57	Gamma emitters	¹³⁴ Cs	3.80E+05	pCi/L	1.98E+04		4.08E+04
	CP10060701X3	WM-182 SR-19	3AF22	Gamma emitters	¹³⁷ Cs	1.75E+07	pCi/L	4.18E+05	J	1.46E+04
	CP10060601X3	WM-182 SR-19	3AJ52	Gamma emitters	¹³⁷ Cs	2.04E+07	pCi/L	7.77E+05		7.40E+03
	CP10060801X3	DVB-C6	3AG41	Gamma emitters	¹³⁷ Cs	4.82E+07	pCi/L	1.68E+06	J	7.67E+03
	CP10061001X3	WM-183 SR-21	3AF62	Gamma emitters	¹³⁷ Cs	2.04E+08	pCi/L	4.19E+06	J	2.08E+04
	CP10060901X3	WM-183 SR-21	3AJ57	Gamma emitters	¹³⁷ Cs	7.32E+08	pCi/L	1.51E+07		8.63E+04
	CP10060801X3	DVB-C6	3AG41	Gamma emitters	¹⁵² Eu	-1.40E+04	pCi/L	2.30E+04	UJ	3.48E+04
	CP10060701X3	WM-182 SR-19	3AF22	Gamma emitters	¹⁵² Eu	-1.27E+04	pCi/L	2.27E+04	UJ	4.14E+04
	CP10061001X3	WM-183 SR-21	3AF62	Gamma emitters	¹⁵² Eu	1.67E+00	pCi/L	1.23E+04	UJ	4.82E+04
	CP10060601X3	WM-182 SR-19	3AJ52	Gamma emitters	¹⁵² Eu	6.97E+03	pCi/L	1.52E+04	U	3.26E+04
	CP10060901X3	WM-183 SR-21	3AJ57	Gamma emitters	¹⁵² Eu	1.61E+05	pCi/L	2.08E+05	U	1.82E+05
	CP10060601X3	WM-182 SR-19	3AJ52	Gamma emitters	¹⁵⁴ Eu	-1.68E+03	pCi/L	3.75E+03	U	8.73E+03
	CP10060701X3	WM-182 SR-19	3AF22	Gamma emitters	¹⁵⁴ Eu	2.54E+03	pCi/L	5.51E+03	UJ	1.28E+04
	CP10060901X3	WM-183 SR-21	3AJ57	Gamma emitters	¹⁵⁴ Eu	4.42E+03	pCi/L	1.51E+04	U	4.61E+04
	CP10060801X3	DVB-C6	3AG41	Gamma emitters	¹⁵⁴ Eu	5.79E+04	pCi/L	4.61E+03	J	7.12E+03
	CP10061001X3	WM-183 SR-21	3AF62	Gamma emitters	¹⁵⁴ Eu	4.44E+05	pCi/L	2.70E+04	J	9.25E+03
	CP10060901X3	WM-183 SR-21	3AJ57	Gamma emitters	¹⁵⁵ Eu	-8.60E+04	pCi/L	1.32E+05	U	1.72E+05
	CP10060801X3	DVB-C6	3AG41	Gamma emitters	¹⁵⁵ Eu	-7.69E+03	pCi/L	1.39E+04	UJ	2.34E+04
	CP10060601X3	WM-182 SR-19	3AJ52	Gamma emitters	¹⁵⁵ Eu	1.96E+03	pCi/L	7.31E+03	U	2.18E+04
	CP10060701X3	WM-182 SR-19	3AF22	Gamma emitters	¹⁵⁵ Eu	2.18E+04	pCi/L	3.30E+04	UJ	4.20E+04
	CP10061001X3	WM-183 SR-21	3AF62	Gamma emitters	¹⁵⁵ Eu	4.13E+04	pCi/L	5.51E+04	UJ	4.72E+04
	CP10060801X3	DVB-C6	3AG41	Gamma emitters	³ H	1.37E+03	pCi/L	7.60E+01		7.74E+02
	CP10061001X3	WM-183 SR-21	3AF62	Special analysis	³ H	8.09E+03	pCi/L	1.00E+02		7.62E+02

Table C-4. (continued).

Field Sample ID	Location	Lab Sample ID	Analysis Type	Compound	Result	Units	Uncertainty	Validator Flag ^a	MDA ^b
C-51	CP10060701X3	WM-182 SR-19	3AF22	Special analysis	³ H	9.87E+03	pCi/L	1.10E+02	7.73E+02
	CP10060601R8	WM-182 SR-19	3AJ53	Special analysis	³ H	1.23E+04	pCi/L	1.31E+02	9.05E+02
	CP10060901R8	WM-183 SR-21	3AJ58	Special analysis	³ H	5.66E+04	pCi/L	2.34E+02	9.05E+02
	CP10060601X5	WM-182 SR-19	01F1-01-C	Special analysis	¹²⁹ I	6.91E+01	pCi/L	9.33E+00	J 2.35E+01
	CP10060701X5	WM-182 SR-19	01E0-12-A	Special analysis	¹²⁹ I	7.00E+01	pCi/L	1.02E+01	J 2.67E+01
	CP10061001X5	WM-183 SR-21	01E0-16-A	Special analysis	¹²⁹ I	9.76E+01	pCi/L	6.96E+00	J 8.32E+00
	CP10060801X5	DVB-C6	01E0-14-A	Special analysis	¹²⁹ I	1.01E+02	pCi/L	8.01E+00	J 1.19E+01
	CP10060901X5	WM-183 SR-21	01F1-02-C	Special analysis	¹²⁹ I	4.88E+02	pCi/L	3.04E+01	J 2.42E+01
	CP10060901X3	WM-183 SR-21	3AJ57	Gamma emitters	⁵⁴ Mn	-3.65E+03	pCi/L	1.18E+04	U 2.04E+04
	CP10061001X3	WM-183 SR-21	3AF62	Gamma emitters	⁵⁴ Mn	-1.04E+03	pCi/L	2.14E+03	UJ 3.38E+03
	CP10060701X3	WM-182 SR-19	3AF22	Gamma emitters	⁵⁴ Mn	-2.49E+02	pCi/L	1.26E+03	UJ 4.54E+03
	CP10060801X3	DVB-C6	3AG41	Gamma emitters	⁵⁴ Mn	2.60E+02	pCi/L	7.94E+02	UJ 2.36E+03
	CP10060601X3	WM-182 SR-19	3AJ52	Gamma emitters	⁵⁴ Mn	3.35E+02	pCi/L	9.32E+02	U 2.66E+03
	CP10060901X3	WM-183 SR-21	3AJ57	Gamma emitters	⁹⁴ Nb	-5.31E+03	pCi/L	1.02E+04	U 2.13E+04
	CP10060801X3	DVB-C6	3AG41	Gamma emitters	⁹⁴ Nb	1.64E+02	pCi/L	6.73E+02	UJ 2.34E+03
	CP10060601X3	WM-182 SR-19	3AJ52	Gamma emitters	⁹⁴ Nb	3.75E+02	pCi/L	9.81E+02	U 2.78E+03
	CP10060701X3	WM-182 SR-19	3AF22	Gamma emitters	⁹⁴ Nb	2.16E+03	pCi/L	3.19E+03	UJ 4.32E+03
	CP10061001X3	WM-183 SR-21	3AF62	Gamma emitters	⁹⁴ Nb	2.61E+04	pCi/L	2.89E+03	J 3.53E+03
	CP10061001X3	WM-183 SR-21	3AF62	Gamma emitters	⁹⁵ Nb	-4.04E+03	pCi/L	6.85E+03	UJ 3.37E+03
	CP10060901X3	WM-183 SR-21	3AJ57	Gamma emitters	⁹⁵ Nb	-2.44E+03	pCi/L	7.51E+03	U 2.00E+04
	CP10060701X3	WM-182 SR-19	3AF22	Gamma emitters	⁹⁵ Nb	-2.74E+02	pCi/L	3.05E+03	UJ 4.70E+03
	CP10060801X3	DVB-C6	3AG41	Gamma emitters	⁹⁵ Nb	-1.56E+02	pCi/L	6.79E+02	UJ 2.29E+03
	CP10060601X3	WM-182 SR-19	3AJ52	Gamma emitters	⁹⁵ Nb	8.81E+02	pCi/L	1.56E+03	U 2.79E+03
	CP10060801X4	DVB-C6	01E0-13-A	Special analysis	⁶³ Ni	8.46E+02	pCi/L	1.49E+02	4.60E+02
	CP10060701X4	WM-182 SR-19	01E0-11-A	Special analysis	⁶³ Ni	1.14E+03	pCi/L	1.78E+02	5.42E+02
	CP10060601X4	WM-182 SR-19	01F1-01-A	Special analysis	⁶³ Ni	1.35E+03	pCi/L	2.57E+02	4.52E+02

Table C-4. (continued).

Field Sample ID	Location	Lab Sample ID	Analysis Type	Compound	Result	Units	Uncertainty	Validator Flag ^a	MDA ^b	
C-52	CP10061001X4	WM-183 SR-21	01E0-15-A	Special analysis	⁶³ Ni	1.72E+04	pCi/L	8.10E+02	4.66E+02	
	CP10060901X4	WM-183 SR-21	01F1-02-A	Special analysis	⁶³ Ni	1.26E+05	pCi/L	5.72E+03	4.54E+02	
	CP10060701X3	WM-182 SR-19	3AF22	Alpha emitters	²³⁷ Np	-2.70E+01	pCi/L	4.23E+01	UJ	1.37E+02
	CP10060901X3	WM-183 SR-21	3AJ57	Alpha emitters	²³⁷ Np	1.01E+00	pCi/L	8.16E-02		6.69E-02
	CP10060801X3	DVB-C6	3AG41	Alpha emitters	²³⁷ Np	1.22E+01	pCi/L	1.82E+01	UJ	1.25E+02
	CP10061001X3	WM-183 SR-21	3AF62	Alpha emitters	²³⁷ Np	2.20E+02	pCi/L	4.82E+01	J	6.65E+01
	CP10060601X3	WM-182 SR-19	3AJ52	Alpha emitters	²³⁷ Np	1.01E+03	pCi/L	8.16E+01		6.69E+01
	CP10060701X3	WM-182 SR-19	3AF22	Alpha emitters	²³⁸ Pu	8.24E+02	pCi/L	1.80E+02	J	4.35E+01
	CP10060601X3	WM-182 SR-19	3AJ52	Alpha emitters	²³⁸ Pu	1.31E+03	pCi/L	2.63E+02		3.35E+01
	CP10060801X3	DVB-C6	3AG41	Alpha emitters	²³⁸ Pu	1.18E+05	pCi/L	1.81E+04	J	8.28E+01
	CP10060901X3	WM-183 SR-21	3AJ57	Alpha emitters	²³⁸ Pu	7.61E+05	pCi/L	1.18E+05		5.77E+01
	CP10061001X3	WM-183 SR-21	3AF62	Alpha emitters	²³⁸ Pu	1.05E+06	pCi/L	1.64E+05	J	7.80E+01
	CP10060701X3	WM-182 SR-19	3AF22	Alpha emitters	²³⁹ Pu	7.80E+01	pCi/L	3.16E+01	J	4.19E+01
	CP10060601X3	WM-182 SR-19	3AJ52	Alpha emitters	²³⁹ Pu	2.24E+02	pCi/L	6.25E+01		2.93E+01
	CP10060801X3	DVB-C6	3AG41	Alpha emitters	²³⁹ Pu	3.04E+03	pCi/L	5.58E+02	J	6.47E+01
	CP10060901X3	WM-183 SR-21	3AJ57	Alpha emitters	²³⁹ Pu	9.42E+03	pCi/L	1.66E+03		5.68E+01
	CP10061001X3	WM-183 SR-21	3AF62	Alpha emitters	²³⁹ Pu	1.74E+04	pCi/L	3.01E+03	J	6.27E+01
	CP10060801X4	DVB-C6	01E0-13-A	Special analysis	²⁴¹ Pu	-2.49E+04	pCi/L	1.25E+04	U	4.31E+04
	CP10060701X4	WM-182 SR-19	01E0-11-A	Special analysis	²⁴¹ Pu	-8.82E+03	pCi/L	1.27E+04	U	4.32E+04
	CP10060601X4	WM-182 SR-19	01F1-01-A	Special analysis	²⁴¹ Pu	8.12E+03	pCi/L	1.29E+04	U	4.30E+04
	CP10061001X4	WM-183 SR-21	01E0-15-A	Special analysis	²⁴¹ Pu	1.37E+04	pCi/L	1.30E+04	U	4.32E+04
	CP10060901X4	WM-183 SR-21	01F1-02-A	Special analysis	²⁴¹ Pu	1.06E+05	pCi/L	1.50E+04	J	4.30E+04
	CP10060801X3	DVB-C6	3AG41	Gamma emitters	²²⁶ Ra	7.68E+01	pCi/L	4.88E+04	UJ	1.86E+05
	CP10060601X3	WM-182 SR-19	3AJ52	Gamma emitters	²²⁶ Ra	1.15E+04	pCi/L	5.27E+04	U	1.72E+05
	CP10060701X3	WM-182 SR-19	3AF22	Gamma emitters	²²⁶ Ra	1.99E+05	pCi/L	5.62E+05	UJ	2.94E+05
	CP10061001X3	WM-183 SR-21	3AF62	Gamma emitters	²²⁶ Ra	2.24E+05	pCi/L	6.22E+05	UJ	3.23E+05

Table C-4. (continued).

	Field Sample ID	Location	Lab Sample ID	Analysis Type	Compound	Result	Units	Uncertainty	Validator Flag ^a	MDA ^b
C-53	CP10060901X3	WM-183 SR-21	3AJ57	Gamma emitters	²²⁶ Ra	1.09E+06	pCi/L	2.58E+06	U	1.20E+06
	CP10060901X3	WM-183 SR-21	3AJ57	Gamma emitters	¹⁰³ Ru	-3.22E+04	pCi/L	4.81E+04	U	6.14E+04
	CP10060701X3	WM-182 SR-19	3AF22	Gamma emitters	¹⁰³ Ru	-4.21E+03	pCi/L	7.56E+03	UJ	1.36E+04
	CP10061001X3	WM-183 SR-21	3AF62	Gamma emitters	¹⁰³ Ru	1.70E+03	pCi/L	5.47E+03	UJ	1.61E+04
	CP10060801X3	DVB-C6	3AG41	Gamma emitters	¹⁰³ Ru	4.48E+03	pCi/L	7.77E+03	UJ	1.29E+04
	CP10060601X3	WM-182 SR-19	3AJ52	Gamma emitters	¹⁰³ Ru	5.42E+03	pCi/L	8.64E+03	U	1.22E+04
	CP10060901X3	WM-183 SR-21	3AJ57	Gamma emitters	¹⁰⁶ Ru	-1.62E+04	pCi/L	1.06E+05	U	3.97E+05
	CP10060801X3	DVB-C6	3AG41	Gamma emitters	¹⁰⁶ Ru	9.25E+03	pCi/L	2.77E+04	UJ	7.39E+04
	CP10060601X3	WM-182 SR-19	3AJ52	Gamma emitters	¹⁰⁶ Ru	1.44E+04	pCi/L	3.21E+04	U	6.99E+04
	CP10061001X3	WM-183 SR-21	3AF62	Gamma emitters	¹⁰⁶ Ru	1.64E+04	pCi/L	4.04E+04	UJ	1.03E+05
	CP10060701X3	WM-182 SR-19	3AF22	Gamma emitters	¹⁰⁶ Ru	4.24E+04	pCi/L	6.58E+04	UJ	9.26E+04
	CP10060901X3	WM-183 SR-21	3AJ57	Gamma emitters	¹²⁵ Sb	-4.60E+04	pCi/L	9.51E+04	U	2.08E+05
	CP10060801X3	DVB-C6	3AG41	Gamma emitters	¹²⁵ Sb	-1.32E+04	pCi/L	2.41E+04	UJ	4.40E+04
	CP10060701X3	WM-182 SR-19	3AF22	Gamma emitters	¹²⁵ Sb	1.07E+04	pCi/L	2.18E+04	UJ	4.73E+04
	CP10060601X3	WM-182 SR-19	3AJ52	Gamma emitters	¹²⁵ Sb	2.30E+04	pCi/L	3.36E+04	U	4.12E+04
	CP10061001X3	WM-183 SR-21	3AF62	Gamma emitters	¹²⁵ Sb	5.48E+04	pCi/L	6.87E+04	UJ	5.53E+04
	CP10061001X4	WM-183 SR-21	01E0-15-A	Specific analysis	TOTAL-SR	9.40E+06	pCi/L	1.99E+06		6.02E+06
	CP10060601X4	WM-182 SR-19	01F1-01-A	Specific analysis	TOTAL-SR	1.44E+07	pCi/L	1.92E+06		5.24E+06
	CP10060701X4	WM-182 SR-19	01E0-11-A	Specific analysis	TOTAL-SR	1.53E+07	pCi/L	2.62E+06		7.62E+06
	CP10060901X4	WM-183 SR-21	01F1-02-A	Specific analysis	TOTAL-SR	5.01E+07	pCi/L	3.31E+06		6.76E+06
	CP10060801X4	DVB-C6	01E0-13-A	Specific analysis	TOTAL-SR	9.62E+07	pCi/L	4.79E+06		7.26E+06
	CP10060801X3	DVB-C6	3AG41	Alpha emitters	²³⁴ U	2.83E+01	pCi/L	4.27E+01	UJ	5.70E+01
	CP10061001X3	WM-183 SR-21	3AF62	Alpha emitters	²³⁴ U	6.23E+02	pCi/L	1.50E+02	J	3.46E+01
	CP10060701X3	WM-182 SR-19	3AF22	Alpha emitters	²³⁴ U	8.98E+02	pCi/L	1.97E+02	J	4.63E+01
	CP10060601X3	WM-182 SR-19	3AJ52	Alpha emitters	²³⁴ U	1.38E+03	pCi/L	2.92E+02		7.26E+01
	CP10060901X3	WM-183 SR-21	3AJ57	Alpha emitters	²³⁴ U	2.30E+03	pCi/L	4.51E+02		5.12E+01

Table C-4. (continued).

Field Sample ID	Location	Lab Sample ID	Analysis Type	Compound	Result	Units	Uncertainty	Validator Flag ^a	MDA ^b	
C-54	CP10060801X3	DVB-C6	3AG41	Gamma emitters	²³⁵ U	-1.76E+03	pCi/L	4.76E+03	UJ	1.13E+04
	CP10061001X3	WM-183 SR-21	3AF62	Alpha emitters	²³⁵ U	-7.80E-01	pCi/L	1.30E+00	UJ	2.44E+01
	CP10060801X3	DVB-C6	3AG41	Alpha emitters	²³⁵ U	1.89E+01	pCi/L	2.93E+01	UJ	4.96E+01
	CP10060901X3	WM-183 SR-21	3AJ57	Alpha emitters	²³⁵ U	2.93E+01	pCi/L	3.90E+01	U	3.34E+01
	CP10060601X3	WM-182 SR-19	3AJ52	Alpha emitters	²³⁵ U	4.01E+01	pCi/L	5.66E+01	U	5.40E+01
	CP10060701X3	WM-182 SR-19	3AF22	Alpha emitters	²³⁵ U	4.68E+01	pCi/L	2.31E+01	J	3.23E+01
	CP10060601X3	WM-182 SR-19	3AJ52	Gamma emitters	²³⁵ U	4.63E+03	pCi/L	7.26E+03	U	1.04E+04
	CP10060701X3	WM-182 SR-19	3AF22	Gamma emitters	²³⁵ U	1.21E+04	pCi/L	3.41E+04	UJ	1.79E+04
	CP10061001X3	WM-183 SR-21	3AF62	Gamma emitters	²³⁵ U	1.35E+04	pCi/L	3.76E+04	UJ	1.95E+04
	CP10060901X3	WM-183 SR-21	3AJ57	Gamma emitters	²³⁵ U	6.60E+04	pCi/L	1.55E+05	U	7.25E+04
	CP10060801X3	DVB-C6	3AG41	Alpha emitters	²³⁶ U	-5.77E+00	pCi/L	9.78E+00	UJ	5.05E+01
	CP10060901X3	WM-183 SR-21	3AJ57	Alpha emitters	²³⁶ U	-2.16E+00	pCi/L	3.65E+00	U	2.36E+01
	CP10061001X3	WM-183 SR-21	3AF62	Alpha emitters	²³⁶ U	4.95E+00	pCi/L	8.05E+00	UJ	3.04E+01
	CP10060701X3	WM-182 SR-19	3AF22	Alpha emitters	²³⁶ U	2.46E+01	pCi/L	3.36E+01	UJ	2.92E+01
	CP10060601X3	WM-182 SR-19	3AJ52	Alpha emitters	²³⁶ U	3.41E+01	pCi/L	4.83E+01	U	4.51E+01
	CP10060701X3	WM-182 SR-19	3AF22	Alpha emitters	²³⁸ U	-1.57E+00	pCi/L	2.63E+00	UJ	3.64E+01
	CP10060801X3	DVB-C6	3AG41	Alpha emitters	²³⁸ U	2.31E+00	pCi/L	3.82E+00	UJ	4.02E+01
	CP10060901X3	WM-183 SR-21	3AJ57	Alpha emitters	²³⁸ U	5.95E+00	pCi/L	9.66E+00	U	3.77E+01
	CP10060601X3	WM-182 SR-19	3AJ52	Alpha emitters	²³⁸ U	7.97E+00	pCi/L	1.28E+01	U	3.70E+01
	CP10061001X3	WM-183 SR-21	3AF62	Alpha emitters	²³⁸ U	1.05E+01	pCi/L	1.64E+01	UJ	2.70E+01
	CP10060701X3	WM-182 SR-19	3AF22	Gamma emitters	⁶⁵ Zn	-9.58E+03	pCi/L	1.22E+04	UJ	9.68E+03
	CP10061001X3	WM-183 SR-21	3AF62	Gamma emitters	⁶⁵ Zn	-2.16E+00	pCi/L	1.56E+03	UJ	6.51E+03
	CP10060801X3	DVB-C6	3AG41	Gamma emitters	⁶⁵ Zn	9.00E+00	pCi/L	1.18E+03	UJ	4.81E+03
	CP10060901X3	WM-183 SR-21	3AJ57	Gamma emitters	⁶⁵ Zn	4.08E+01	pCi/L	7.92E+03	U	3.56E+04
	CP10060601X3	WM-182 SR-19	3AJ52	Gamma emitters	⁶⁵ Zn	1.04E+03	pCi/L	2.68E+03	U	7.30E+03
	CP10060901X3	WM-183 SR-21	3AJ57	Gamma emitters	⁹⁵ Zr	-2.74E+03	pCi/L	1.08E+04	U	3.61E+04

Table C-4. (continued).

Field Sample ID	Location	Lab Sample ID	Analysis Type	Compound	Result	Units	Uncertainty	Validator Flag ^a	MDA ^b
CP10060601X3	WM-182 SR-19	3AJ52	Gamma emitters	⁹⁵ Zr	-7.49E+02	pCi/L	1.69E+03	U	4.01E+03
CP10060701X3	WM-182 SR-19	3AF22	Gamma emitters	⁹⁵ Zr	2.01E+03	pCi/L	3.68E+03	UJ	7.25E+03
CP10060801X3	DVB-C6	3AG41	Gamma emitters	⁹⁵ Zr	2.68E+03	pCi/L	3.87E+03	UJ	4.55E+03
CP10061001X3	WM-183 SR-21	3AF62	Gamma emitters	⁹⁵ Zr ^c	2.81E+04	pCi/L	2.52E+03	J	6.32E+03
CP10060701EA	WM-182 SR-19	3BM41	*ICP-MS ^d ⁹⁹ Tc	⁹⁹ Tc	1.01E+03	pCi/L		J	
CP10060801EA	DVB-C6	3BM42	*ICP-MS ⁹⁹ Tc	⁹⁹ Tc	1.29E+03	pCi/L		J	
CP10060601EA	WM-182 SR-19	3BM40	*ICP-MS ⁹⁹ Tc	⁹⁹ Tc	1.67E+03	pCi/L		J	
CP10061001EA	WM-183 SR-21	3BM44	*ICP-MS ⁹⁹ Tc	⁹⁹ Tc	1.37E+04	pCi/L		J	
CP10060901EA	WM-183 SR-21	3BM43	*ICP-MS ⁹⁹ Tc	⁹⁹ Tc	4.18E+04	pCi/L		J	

a. Validator flags:

J = Estimated value

U = Analyte was analyzed for but not detected.

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b. MDA = Minimum detectable activity.

c. Radionuclide result is a false positive. ⁹⁵Zr is a short half-life (64 days) isotope and is known not to be present due to the age of the tank wastes.

d. ICP-MS = Inductively coupled plasma-mass spectrometry.

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Appendix D

Reported Results for WM-182 Cooling Coils

Table D-1. Reported results for inorganic analyses for Tank WM-182 cooling coils.

Field Sample ID	Location	Lab Sample ID	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag	Validator Flag
CP10130101XM	WM-182 Coil 607	3CI52	INORG	Total metals	7440-47-3	Chromium	9.84E+03	µg/L	a	
CP10130201XM	WM-182 Coil 612	3CI55	INORG	Total metals	7440-47-3	Chromium	7.77E+03	µg/L	a	
CP10130301XM	WM-182 Coil 615	3CI58	INORG	Total metals	7440-47-3	Chromium	3.14E+03	µg/L	a	
CP10130401XM	WM-182 Coil 616	3CI61	INORG	Total metals	7440-47-3	Chromium	1.96E+03	µg/L	a	
CP10130501XM	WM-182 Coil 625	3CI64	INORG	Total metals	7440-47-3	Chromium	2.29E+03	µg/L	a	
CP10130601XM ^b	WM-182 Coil 607	4AJ70	INORG	Total metals	7440-47-3	Chromium	8.74E+02	µg/L		
CP10130701XM ^b	WM-182 Coil 612	4AJ71	INORG	Total metals	7440-47-3	Chromium	1.00E+03	µg/L		
CP10130801XM ^b	WM-182 Coil 615	4AJ72	INORG	Total metals	7440-47-3	Chromium	1.02E+03	µg/L		
CP10130901XM ^b	WM-182 Coil 616	4AJ73	INORG	Total metals	7440-47-3	Chromium	9.80E+02	µg/L		
CP10131001XM ^b	WM-182 Coil 625	4AJ74	INORG	Total metals	7440-47-3	Chromium	6.84E+02	µg/L		
CP10131101XM ^b	WM-182 Coil 607	4AU16	INORG	Total metals	7440-47-3	Chromium	2.44E+02	µg/L		
CP10131201XM ^c	WM-182 Coil 612	4AU17	INORG	Total metals	7440-47-3	Chromium	1.58E+02	µg/L		
CP10131301XM ^c	WM-182 Coil 615	4AU18	INORG	Total metals	7440-47-3	Chromium	1.25E+02	µg/L		
CP10131401XM ^c	WM-182 Coil 616	4AU19	INORG	Total metals	7440-47-3	Chromium	1.95E+02	µg/L		
CP10131501XM ^c	WM-182 Coil 625	4AU20	INORG	Total metals	7440-47-3	Chromium	2.45E+02	µg/L		
CP10130101PH	WM-182 Coil 607	3CI54	INORG	Miscellaneous	*PH	pH	7.1	N/A		
CP10130201PH	WM-182 Coil 612	3CI57	INORG	Miscellaneous	*PH	pH	6.8	N/A		
CP10130301PH	WM-182 Coil 615	3CI60	INORG	Miscellaneous	*PH	pH	6.7	N/A		
CP10130401PH	WM-182 Coil 616	3CI63	INORG	Miscellaneous	*PH	pH	6.8	N/A		
CP10130501PH	WM-182 Coil 625	3CI66	INORG	Miscellaneous	*PH	pH	6.7	N/A		

a. Validation not performed on these data because results did not meet action levels.

b. First resampling effort after initial samples failed to meet chromium action levels (chromium only).

c. Second resampling effort after first resampling failed to meet chromium action levels (chromium only).

N/A = Not applicable.

Table D-2. Reported results for radionuclide analyses for WM-182 cooling coils.

Field Sample ID	Location	Lab Sample ID	Analysis Type	Analysis	Compound	Result	Units	Uncertainty	Validator Flag ^a	MDA
CP10130101R4	WM-182 Coil 607	3CI53	RADS	Gamma spectroscopy	¹⁰³ Ru	6.67E-01	pCi/L	3.85E+00	U	1.47E+01
CP10130201R4	WM-182 Coil 612	3CI56	RADS	Gamma spectroscopy	¹⁰³ Ru	8.93E+00	pCi/L	1.30E+01	U	1.49E+01
CP10130301R4	WM-182 Coil 615	3CI59	RADS	Gamma spectroscopy	¹⁰³ Ru	-2.37E+00	pCi/L	5.50E+00	U	1.37E+01
CP10130401R4	WM-182 Coil 616	3CI62	RADS	Gamma spectroscopy	¹⁰³ Ru	2.45E-02	pCi/L	3.04E+00	U	1.42E+01
CP10130501R4	WM-182 Coil 625	3CI65	RADS	Gamma spectroscopy	¹⁰³ Ru	3.40E-01	pCi/L	3.50E+00	U	1.47E+01
CP10130101R4	WM-182 Coil 607	3CI53	RADS	Gamma spectroscopy	¹⁰⁶ Ru	1.28E+01	pCi/L	2.79E+01	U	6.42E+01
CP10130201R4	WM-182 Coil 612	3CI56	RADS	Gamma spectroscopy	¹⁰⁶ Ru	1.85E+01	pCi/L	3.33E+01	U	5.99E+01
CP10130301R4	WM-182 Coil 615	3CI59	RADS	Gamma spectroscopy	¹⁰⁶ Ru	-8.82E+00	pCi/L	2.15E+01	U	5.48E+01
CP10130401R4	WM-182 Coil 616	3CI62	RADS	Gamma spectroscopy	¹⁰⁶ Ru	-1.42E+01	pCi/L	2.77E+01	U	5.60E+01
CP10130501R4	WM-182 Coil 625	3CI65	RADS	Gamma spectroscopy	¹⁰⁶ Ru	1.61E+01	pCi/L	3.13E+01	U	6.27E+01
CP10130101R4	WM-182 Coil 607	3CI53	RADS	Gamma spectroscopy	^{108m} Ag	-1.53E+00	pCi/L	3.04E+00	U	6.15E+00
CP10130201R4	WM-182 Coil 612	3CI56	RADS	Gamma spectroscopy	^{108m} Ag	4.59E+00	pCi/L	6.22E+00	U	5.91E+00
CP10130301R4	WM-182 Coil 615	3CI59	RADS	Gamma spectroscopy	^{108m} Ag	-5.58E-01	pCi/L	1.89E+00	U	5.64E+00
CP10130401R4	WM-182 Coil 616	3CI62	RADS	Gamma spectroscopy	^{108m} Ag	6.20E+00	pCi/L	8.00E+00	U	6.26E+00
CP10130501R4	WM-182 Coil 625	3CI65	RADS	Gamma spectroscopy	^{108m} Ag	-3.40E+00	pCi/L	4.86E+00	U	5.42E+00
CP10130101R4	WM-182 Coil 607	3CI53	RADS	Gamma spectroscopy	^{110m} Ag	2.81E+00	pCi/L	5.04E+00	U	9.49E+00
CP10130201R4	WM-182 Coil 612	3CI56	RADS	Gamma spectroscopy	^{110m} Ag	-4.71E-01	pCi/L	2.28E+00	U	8.43E+00
CP10130301R4	WM-182 Coil 615	3CI59	RADS	Gamma spectroscopy	^{110m} Ag	4.95E+00	pCi/L	7.21E+00	U	8.92E+00
CP10130401R4	WM-182 Coil 616	3CI62	RADS	Gamma spectroscopy	^{110m} Ag	3.60E+00	pCi/L	5.83E+00	U	9.23E+00
CP10130501R4	WM-182 Coil 625	3CI65	RADS	Gamma spectroscopy	^{110m} Ag	4.81E-01	pCi/L	2.32E+00	U	8.59E+00
CP10130101R4	WM-182 Coil 607	3CI53	RADS	Gamma spectroscopy	¹²⁵ Sb	-2.65E+00	pCi/L	7.16E+00	U	2.00E+01
CP10130201R4	WM-182 Coil 612	3CI56	RADS	Gamma spectroscopy	¹²⁵ Sb	1.03E+01	pCi/L	1.50E+01	U	1.84E+01
CP10130301R4	WM-182 Coil 615	3CI59	RADS	Gamma spectroscopy	¹²⁵ Sb	-2.72E+00	pCi/L	6.94E+00	U	1.87E+01
CP10130401R4	WM-182 Coil 616	3CI62	RADS	Gamma spectroscopy	¹²⁵ Sb	2.99E+00	pCi/L	7.23E+00	U	1.87E+01
CP10130501R4	WM-182 Coil 625	3CI65	RADS	Gamma spectroscopy	¹²⁵ Sb	-3.71E-01	pCi/L	4.45E+00	U	1.87E+01
CP10130101R4	WM-182 Coil 607	3CI53	RADS	Gamma spectroscopy	¹³⁴ Cs	1.06E-02	pCi/L	1.55E+00	U	6.38E+00
CP10130201R4	WM-182 Coil 612	3CI56	RADS	Gamma spectroscopy	¹³⁴ Cs	1.06E-02	pCi/L	1.42E+00	U	5.86E+00

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Table D-2. (continued).

Field Sample ID	Location	Lab Sample ID	Analysis Type	Analysis	Compound	Result	Units	Uncertainty	Validator Flag ^a	MDA
CP10130301R4	WM-182 Coil 615	3CI59	RADS	Gamma spectroscopy	¹³⁴ Cs	-7.98E-02	pCi/L	1.32E+00	U	5.70E+00
CP10130401R4	WM-182 Coil 616	3CI62	RADS	Gamma spectroscopy	¹³⁴ Cs	1.06E-02	pCi/L	1.48E+00	U	6.09E+00
CP10130501R4	WM-182 Coil 625	3CI65	RADS	Gamma spectroscopy	¹³⁴ Cs	1.06E-02	pCi/L	1.45E+00	U	6.00E+00
CP10130101R4	WM-182 Coil 607	3CI53	RADS	Gamma spectroscopy	¹³⁷ Cs	5.90E+01	pCi/L	7.25E+01	U	7.80E+00
CP10130201R4	WM-182 Coil 612	3CI56	RADS	Gamma spectroscopy	¹³⁷ Cs	2.21E+01	pCi/L	1.80E+00		7.73E+00
CP10130301R4	WM-182 Coil 615	3CI59	RADS	Gamma spectroscopy	¹³⁷ Cs	3.84E+00	pCi/L	4.91E+00	U	7.89E+00
CP10130401R4	WM-182 Coil 616	3CI62	RADS	Gamma spectroscopy	¹³⁷ Cs	9.47E-01	pCi/L	9.04E+00	U	8.26E+00
CP10130501R4	WM-182 Coil 625	3CI65	RADS	Gamma spectroscopy	¹³⁷ Cs	5.18E+00	pCi/L	6.19E+00	U	7.70E+00
CP10130101R4	WM-182 Coil 607	3CI53	RADS	Gamma spectroscopy	¹⁴⁴ Ce	-1.91E+01	pCi/L	3.49E+01	U	6.17E+01
CP10130201R4	WM-182 Coil 612	3CI56	RADS	Gamma spectroscopy	¹⁴⁴ Ce	-6.20E+00	pCi/L	1.98E+01	U	5.72E+01
CP10130301R4	WM-182 Coil 615	3CI59	RADS	Gamma spectroscopy	¹⁴⁴ Ce	1.61E+01	pCi/L	3.08E+01	U	5.82E+01
CP10130401R4	WM-182 Coil 616	3CI62	RADS	Gamma spectroscopy	¹⁴⁴ Ce	8.36E+00	pCi/L	2.20E+01	U	5.65E+01
CP10130501R4	WM-182 Coil 625	3CI65	RADS	Gamma spectroscopy	¹⁴⁴ Ce	1.98E+01	pCi/L	3.48E+01	U	5.79E+01
CP10130101R4	WM-182 Coil 607	3CI53	RADS	Gamma spectroscopy	¹⁵² Eu	-8.32E-01	pCi/L	5.49E+00	U	2.06E+01
CP10130201R4	WM-182 Coil 612	3CI56	RADS	Gamma spectroscopy	¹⁵² Eu	2.70E+00	pCi/L	7.19E+00	U	1.93E+01
CP10130301R4	WM-182 Coil 615	3CI59	RADS	Gamma spectroscopy	¹⁵² Eu	5.37E+00	pCi/L	1.02E+01	U	2.00E+01
CP10130401R4	WM-182 Coil 616	3CI62	RADS	Gamma spectroscopy	¹⁵² Eu	2.70E-02	pCi/L	4.37E+00	U	1.94E+01
CP10130501R4	WM-182 Coil 625	3CI65	RADS	Gamma spectroscopy	¹⁵² Eu	1.35E+00	pCi/L	5.81E+00	U	1.96E+01
CP10130101R4	WM-182 Coil 607	3CI53	RADS	Gamma spectroscopy	¹⁵⁴ Eu	1.03E+00	pCi/L	4.28E+00	U	1.52E+01
CP10130201R4	WM-182 Coil 612	3CI56	RADS	Gamma spectroscopy	¹⁵⁴ Eu	5.54E+00	pCi/L	9.82E+00	U	1.76E+01
CP10130301R4	WM-182 Coil 615	3CI59	RADS	Gamma spectroscopy	¹⁵⁴ Eu	1.32E+01	pCi/L	1.84E+01	U	1.81E+01
CP10130401R4	WM-182 Coil 616	3CI62	RADS	Gamma spectroscopy	¹⁵⁴ Eu	6.23E+00	pCi/L	1.05E+01	U	1.73E+01
CP10130501R4	WM-182 Coil 625	3CI65	RADS	Gamma spectroscopy	¹⁵⁴ Eu	-8.16E+00	pCi/L	1.24E+01	U	1.59E+01
CP10130101R4	WM-182 Coil 607	3CI53	RADS	Gamma spectroscopy	¹⁵⁵ Eu	-3.17E+00	pCi/L	1.08E+01	U	3.19E+01
CP10130201R4	WM-182 Coil 612	3CI56	RADS	Gamma spectroscopy	¹⁵⁵ Eu	8.50E+00	pCi/L	1.60E+01	U	2.94E+01
CP10130301R4	WM-182 Coil 615	3CI59	RADS	Gamma spectroscopy	¹⁵⁵ Eu	-1.14E+01	pCi/L	1.93E+01	U	2.95E+01
CP10130401R4	WM-182 Coil 616	3CI62	RADS	Gamma spectroscopy	¹⁵⁵ Eu	8.36E+00	pCi/L	1.61E+01	U	3.04E+01

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Table D-2. (continued).

Field Sample ID	Location	Lab Sample ID	Analysis Type	Analysis	Compound	Result	Units	Uncertainty	Validator Flag ^a	MDA
CP10130501R4	WM-182 Coil 625	3CI65	RADS	Gamma spectroscopy	¹⁵⁵ Eu	8.00E+00	pCi/L	1.57E+01	U	3.01E+01
CP10130101R4	WM-182 Coil 607	3CI53	RADS	Gamma spectroscopy	²²⁶ Ra	4.21E+01	pCi/L	2.51E+02	U	1.94E+02
CP10130201R4	WM-182 Coil 612	3CI56	RADS	Gamma spectroscopy	²²⁶ Ra	-2.66E+00	pCi/L	1.62E+02	U	1.82E+02
CP10130301R4	WM-182 Coil 615	3CI59	RADS	Gamma spectroscopy	²²⁶ Ra	-3.48E+01	pCi/L	1.63E+02	U	1.83E+02
CP10130401R4	WM-182 Coil 616	3CI62	RADS	Gamma spectroscopy	²²⁶ Ra	-7.19E+01	pCi/L	1.62E+02	U	1.77E+02
CP10130501R4	WM-182 Coil 625	3CI65	RADS	Gamma spectroscopy	²²⁶ Ra	4.89E+00	pCi/L	1.73E+02	U	1.85E+02
CP10130101R4	WM-182 Coil 607	3CI53	RADS	Gamma spectroscopy	²³⁵ U	1.09E+00	pCi/L	1.22E+01	U	1.17E+01
CP10130201R4	WM-182 Coil 612	3CI56	RADS	Gamma spectroscopy	²³⁵ U	-2.91E-01	pCi/L	9.84E+00	U	1.10E+01
CP10130301R4	WM-182 Coil 615	3CI59	RADS	Gamma spectroscopy	²³⁵ U	2.82E+00	pCi/L	1.56E+01	U	1.13E+01
CP10130401R4	WM-182 Coil 616	3CI62	RADS	Gamma spectroscopy	²³⁵ U	-1.15E+00	pCi/L	9.78E+00	U	1.08E+01
CP10130501R4	WM-182 Coil 625	3CI65	RADS	Gamma spectroscopy	²³⁵ U	-9.13E-01	pCi/L	9.87E+00	U	1.12E+01
CP10130101R4	WM-182 Coil 607	3CI53	RADS	Gamma spectroscopy	²⁴¹ Am	-3.60E+01	pCi/L	4.88E+01	U	5.06E+01
CP10130201R4	WM-182 Coil 612	3CI56	RADS	Gamma spectroscopy	²⁴¹ Am	3.91E+00	pCi/L	1.46E+01	U	4.86E+01
CP10130301R4	WM-182 Coil 615	3CI59	RADS	Gamma spectroscopy	²⁴¹ Am	-5.51E+00	pCi/L	1.62E+01	U	4.81E+01
CP10130401R4	WM-182 Coil 616	3CI62	RADS	Gamma spectroscopy	²⁴¹ Am	1.32E+01	pCi/L	2.48E+01	U	5.05E+01
CP10130501R4	WM-182 Coil 625	3CI65	RADS	Gamma spectroscopy	²⁴¹ Am	1.07E+01	pCi/L	2.19E+01	U	4.90E+01
CP10130101R4	WM-182 Coil 607	3CI53	RADS	Gamma spectroscopy	⁵⁴ Mn	3.70E+00	pCi/L	5.53E+00	U	7.34E+00
CP10130201R4	WM-182 Coil 612	3CI56	RADS	Gamma spectroscopy	⁵⁴ Mn	2.59E+00	pCi/L	4.20E+00	U	6.65E+00
CP10130301R4	WM-182 Coil 615	3CI59	RADS	Gamma spectroscopy	⁵⁴ Mn	5.12E+00	pCi/L	6.97E+00	U	6.96E+00
CP10130401R4	WM-182 Coil 616	3CI62	RADS	Gamma spectroscopy	⁵⁴ Mn	-3.74E+00	pCi/L	5.45E+00	U	6.71E+00
CP10130501R4	WM-182 Coil 625	3CI65	RADS	Gamma spectroscopy	⁵⁴ Mn	6.08E-01	pCi/L	2.00E+00	U	6.32E+00
CP10130101R4	WM-182 Coil 607	3CI53	RADS	Gamma spectroscopy	⁵⁸ Co	3.82E+00	pCi/L	6.17E+00	U	9.61E+00
CP10130201R4	WM-182 Coil 612	3CI56	RADS	Gamma spectroscopy	⁵⁸ Co	1.16E+00	pCi/L	3.23E+00	U	9.21E+00
CP10130301R4	WM-182 Coil 615	3CI59	RADS	Gamma spectroscopy	⁵⁸ Co	1.34E+00	pCi/L	3.35E+00	U	8.91E+00
CP10130401R4	WM-182 Coil 616	3CI62	RADS	Gamma spectroscopy	⁵⁸ Co	2.66E+00	pCi/L	4.82E+00	U	9.14E+00
CP10130501R4	WM-182 Coil 625	3CI65	RADS	Gamma spectroscopy	⁵⁸ Co	1.22E+00	pCi/L	3.17E+00	U	8.68E+00
CP10130101R4	WM-182 Coil 607	3CI53	RADS	Gamma spectroscopy	⁶⁰ Co	-4.75E+00	pCi/L	6.60E+00	U	8.87E+00

Table D-2. (continued).

Field Sample ID	Location	Lab Sample ID	Analysis Type	Analysis	Compound	Result	Units	Uncertainty	Validator Flag ^a	MDA
CP10130201R4	WM-182 Coil 612	3CI56	RADS	Gamma spectroscopy	⁶⁰ Co	6.22E+00	pCi/L	8.08E+00	U	9.65E+00
CP10130301R4	WM-182 Coil 615	3CI59	RADS	Gamma spectroscopy	⁶⁰ Co	-5.32E-01	pCi/L	1.61E+00	U	1.06E+01
CP10130401R4	WM-182 Coil 616	3CI62	RADS	Gamma spectroscopy	⁶⁰ Co	8.67E-01	pCi/L	2.56E+00	U	1.15E+01
CP10130501R4	WM-182 Coil 625	3CI65	RADS	Gamma spectroscopy	⁶⁰ Co	-6.79E-01	pCi/L	1.40E+01	U	1.11E+01
CP10130101R4	WM-182 Coil 607	3CI53	RADS	Gamma spectroscopy	⁶⁵ Zn	-6.03E-02	pCi/L	2.80E+00	U	1.32E+01
CP10130201R4	WM-182 Coil 612	3CI56	RADS	Gamma spectroscopy	⁶⁵ Zn	1.84E+00	pCi/L	4.74E+00	U	1.32E+01
CP10130301R4	WM-182 Coil 615	3CI59	RADS	Gamma spectroscopy	⁶⁵ Zn	1.52E+01	pCi/L	1.99E+01	U	1.54E+01
CP10130401R4	WM-182 Coil 616	3CI62	RADS	Gamma spectroscopy	⁶⁵ Zn	-3.34E+00	pCi/L	6.30E+00	U	1.29E+01
CP10130501R4	WM-182 Coil 625	3CI65	RADS	Gamma spectroscopy	⁶⁵ Zn	1.08E+00	pCi/L	4.28E+00	U	1.33E+01
CP10130101R4	WM-182 Coil 607	3CI53	RADS	Gamma spectroscopy	⁹⁴ Nb	-2.18E-01	pCi/L	1.44E+00	U	5.70E+00
CP10130201R4	WM-182 Coil 612	3CI56	RADS	Gamma spectroscopy	⁹⁴ Nb	-4.85E-02	pCi/L	1.22E+00	U	5.56E+00
CP10130301R4	WM-182 Coil 615	3CI59	RADS	Gamma spectroscopy	⁹⁴ Nb	2.22E+00	pCi/L	3.53E+00	U	5.49E+00
CP10130401R4	WM-182 Coil 616	3CI62	RADS	Gamma spectroscopy	⁹⁴ Nb	-7.32E-01	pCi/L	1.93E+00	U	5.46E+00
CP10130501R4	WM-182 Coil 625	3CI65	RADS	Gamma spectroscopy	⁹⁴ Nb	7.27E-01	pCi/L	1.94E+00	U	5.51E+00
CP10130101R4	WM-182 Coil 607	3CI53	RADS	Gamma spectroscopy	⁹⁵ Nb	-4.46E+00	pCi/L	8.04E+00	U	1.50E+01
CP10130201R4	WM-182 Coil 612	3CI56	RADS	Gamma spectroscopy	⁹⁵ Nb	-4.13E+00	pCi/L	7.92E+00	U	1.61E+01
CP10130301R4	WM-182 Coil 615	3CI59	RADS	Gamma spectroscopy	⁹⁵ Nb	6.49E+00	pCi/L	1.02E+01	U	1.47E+01
CP10130401R4	WM-182 Coil 616	3CI62	RADS	Gamma spectroscopy	⁹⁵ Nb	-2.63E+00	pCi/L	5.95E+00	U	1.44E+01
CP10130501R4	WM-182 Coil 625	3CI65	RADS	Gamma spectroscopy	⁹⁵ Nb	-1.66E+00	pCi/L	4.86E+00	U	1.42E+01
CP10130101R4	WM-182 Coil 607	3CI53	RADS	Gamma spectroscopy	⁹⁵ Zr	-1.75E+00	pCi/L	5.33E+00	U	1.66E+01
CP10130201R4	WM-182 Coil 612	3CI56	RADS	Gamma spectroscopy	⁹⁵ Zr	1.42E+00	pCi/L	4.93E+00	U	1.65E+01
CP10130301R4	WM-182 Coil 615	3CI59	RADS	Gamma spectroscopy	⁹⁵ Zr	5.58E-01	pCi/L	3.85E+00	U	1.58E+01
CP10130401R4	WM-182 Coil 616	3CI62	RADS	Gamma spectroscopy	⁹⁵ Zr	8.07E+00	pCi/L	1.24E+01	U	1.78E+01
CP10130501R4	WM-182 Coil 625	3CI65	RADS	Gamma spectroscopy	⁹⁵ Zr	6.13E-01	pCi/L	4.20E+00	U	1.71E+01

a. Validator flag

J = Estimated value

U = Analyte was analyzed for but not detected.

MDA=minimum detectable activity.

Appendix E

Reported Results for WM-183 Cooling Coils

Table E-1. Reported results for inorganic analyses for WM-183 cooling coils.

Field Sample ID	Location	Lab Sample ID	Type	Analysis	CAS-Number	Compound	Result	Units	Lab Flag	Validator Flag
CP10140101XM	WM-183 Coil 639	4AC30	INORG	Total metals	7440-47-3	Chromium	3.24E+03	µg/L	a	
CP10140201XM	WM-183 Coil 643	4AC33	INORG	Total metals	7440-47-3	Chromium	1.38E+03	µg/L	a	
CP10140301XM	WM-183 Coil 648	4AC36	INORG	Total metals	7440-47-3	Chromium	9.88E+02	µg/L	a	
CP10140401XM	WM-183 Coil 658	4AC39	INORG	Total metals	7440-47-3	Chromium	1.94E+03	µg/L	a	
CP10140501XM	WM-183 Coil 659	4AC42	INORG	Total metals	7440-47-3	Chromium	1.51E+03	µg/L	a	
CP10140601XM ^b	WM-183 Coil 639	4AL76	INORG	Total metals	7440-47-3	Chromium	2.12E+02	µg/L		
CP10140701XM ^b	WM-183 Coil 643	4AL77	INORG	Total metals	7440-47-3	Chromium	3.15E+02	µg/L		
CP10140801XM ^b	WM-183 Coil 648	4AL78	INORG	Total metals	7440-47-3	Chromium	9.06E+02	µg/L		
CP10140901XM ^b	WM-183 Coil 658	4AL79	INORG	Total metals	7440-47-3	Chromium	9.14E+02	µg/L		
CP10141001XM ^b	WM-183 Coil 659	4AL80	INORG	Total metals	7440-47-3	Chromium	7.83E+02	µg/L		
CP10141101XM ^c	WM-183 Coil 639	4AX32	INORG	Total metals	7440-47-3	Chromium	1.47E+02	µg/L		
CP10141201XM ^c	WM-183 Coil 643	4AX33	INORG	Total metals	7440-47-3	Chromium	2.60E+02	µg/L		
CP10141301XM ^c	WM-183 Coil 648	4AX34	INORG	Total metals	7440-47-3	Chromium	3.58E+02	µg/L		
CP10141401XM ^c	WM-183 Coil 658	4AX35	INORG	Total metals	7440-47-3	Chromium	5.17E+02	µg/L		
CP10141501XM ^c	WM-183 Coil 659	4AX36	INORG	Total metals	7440-47-3	Chromium	3.42E+02	µg/L		
CP10140101PH	WM-183 Coil 639	4AC32	INORG	Miscellaneous	*PH	pH	6.9	N/A		
CP10140201PH	WM-183 Coil 643	4AC35	INORG	Miscellaneous	*PH	pH	6.8	N/A		
CP10140301PH	WM-183 Coil 648	4AC38	INORG	Miscellaneous	*PH	pH	6.9	N/A		
CP10140401PH	WM-183 Coil 658	4AC41	INORG	Miscellaneous	*PH	pH	7.1	N/A		
CP10140501PH	WM-183 Coil 659	4AC44	INORG	Miscellaneous	*PH	pH	7.1	N/A		

a. Validation was not performed on these data because the reported results exceeded action levels.

b. First resampling effort after initial samples failed to meet chromium action levels (chromium only).

c. Second resampling effort after first resampling failed to meet chromium action levels (chromium only).

N/A = Not applicable.

Table E-2. Reported results for radionuclide analyses for WM-183 cooling coils.

Field Sample ID	Location	Lab Sample ID	Analysis Type	Analysis	Compound	Result	Units	Uncertainty	Validator Flag ^a	MDA
CP10140301R4	WM-183 Coil 648	4AC37	RADS	Gamma spectroscopy	^{108m} Ag	-1.92E+00	pCi/L	2.82E+00	U	3.48E+00
CP10140101R4	WM-183 Coil 639	4AC31	RADS	Gamma spectroscopy	^{108m} Ag	-1.10E+00	pCi/L	1.98E+00	U	3.54E+00
CP10140501R4	WM-183 Coil 659	4AC43	RADS	Gamma spectroscopy	^{108m} Ag	-2.08E-01	pCi/L	1.05E+00	U	3.55E+00
CP10140201R4	WM-183 Coil 643	4AC34	RADS	Gamma spectroscopy	^{108m} Ag	5.12E-01	pCi/L	1.39E+00	U	3.64E+00
CP10140401R4	WM-183 Coil 658	4AC40	RADS	Gamma spectroscopy	^{108m} Ag	2.17E+00	pCi/L	3.15E+00	U	3.75E+00
CP10140201R4	WM-183 Coil 643	4AC34	RADS	Gamma spectroscopy	^{108m} Ag	-1.68E+00	pCi/L	2.77E+00	U	4.60E+00
CP10140301R4	WM-183 Coil 648	4AC37	RADS	Gamma spectroscopy	^{108m} Ag	-2.03E-01	pCi/L	1.27E+00	U	4.89E+00
CP10140401R4	WM-183 Coil 658	4AC40	RADS	Gamma spectroscopy	^{108m} Ag	1.44E-01	pCi/L	1.15E+00	U	4.65E+00
CP10140101R4	WM-183 Coil 639	4AC31	RADS	Gamma spectroscopy	^{108m} Ag	6.74E-01	pCi/L	1.74E+00	U	4.75E+00
CP10140501R4	WM-183 Coil 659	4AC43	RADS	Gamma spectroscopy	^{108m} Ag	7.03E-01	pCi/L	1.78E+00	U	4.80E+00
CP10140101R4	WM-183 Coil 639	4AC31	RADS	Gamma spectroscopy	²⁴¹ Am	-5.83E+00	pCi/L	1.27E+01	U	3.04E+01
CP10140301R4	WM-183 Coil 648	4AC37	RADS	Gamma spectroscopy	²⁴¹ Am	-4.18E+00	pCi/L	1.11E+01	U	3.08E+01
CP10140501R4	WM-183 Coil 659	4AC43	RADS	Gamma spectroscopy	²⁴¹ Am	2.89E+00	pCi/L	9.65E+00	U	3.04E+01
CP10140201R4	WM-183 Coil 643	4AC34	RADS	Gamma spectroscopy	²⁴¹ Am	5.39E+00	pCi/L	1.24E+01	U	3.09E+01
CP10140401R4	WM-183 Coil 658	4AC40	RADS	Gamma spectroscopy	²⁴¹ Am	7.09E+00	pCi/L	1.42E+01	U	3.10E+01
CP10140101R4	WM-183 Coil 639	4AC31	RADS	Gamma spectroscopy	¹⁴⁴ Ce	-1.47E+01	pCi/L	2.32E+01	U	3.20E+01
CP10140201R4	WM-183 Coil 643	4AC34	RADS	Gamma spectroscopy	¹⁴⁴ Ce	-9.79E+00	pCi/L	1.79E+01	U	3.17E+01
CP10140301R4	WM-183 Coil 648	4AC37	RADS	Gamma spectroscopy	¹⁴⁴ Ce	1.55E+00	pCi/L	8.98E+00	U	3.17E+01
CP10140401R4	WM-183 Coil 658	4AC40	RADS	Gamma spectroscopy	¹⁴⁴ Ce	3.96E+00	pCi/L	1.17E+01	U	3.23E+01
CP10140501R4	WM-183 Coil 659	4AC43	RADS	Gamma spectroscopy	¹⁴⁴ Ce	8.01E+00	pCi/L	1.61E+01	U	3.22E+01
CP10140501R4	WM-183 Coil 659	4AC43	RADS	Gamma spectroscopy	⁵⁸ Co	-1.30E+00	pCi/L	2.19E+00	U	3.68E+00
CP10140301R4	WM-183 Coil 648	4AC37	RADS	Gamma spectroscopy	⁵⁸ Co	-6.63E-01	pCi/L	1.46E+00	U	3.46E+00
CP10140201R4	WM-183 Coil 643	4AC34	RADS	Gamma spectroscopy	⁵⁸ Co	-5.08E-01	pCi/L	1.29E+00	U	3.43E+00
CP10140401R4	WM-183 Coil 658	4AC40	RADS	Gamma spectroscopy	⁵⁸ Co	-1.20E-01	pCi/L	8.79E-01	U	3.43E+00
CP10140101R4	WM-183 Coil 639	4AC31	RADS	Gamma spectroscopy	⁵⁸ Co	7.78E-01	pCi/L	1.57E+00	U	3.39E+00
CP10140301R4	WM-183 Coil 648	4AC37	RADS	Gamma spectroscopy	⁶⁰ Co	-2.79E+00	pCi/L	1.04E+01	U	6.27E+00
CP10140501R4	WM-183 Coil 659	4AC43	RADS	Gamma spectroscopy	⁶⁰ Co	-2.74E+00	pCi/L	1.04E+01	U	6.35E+00

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Table E-2. (continued).

Field Sample ID	Location	Lab Sample ID	Analysis Type	Analysis	Compound	Result	Units	Uncertainty	Validator Flag ^a	MDA
CP10140201R4	WM-183 Coil 643	4AC34	RADS	Gamma spectroscopy	⁶⁰ Co	-1.10E+00	pCi/L	2.36E+00	U	5.45E+00
CP10140101R4	WM-183 Coil 639	4AC31	RADS	Gamma spectroscopy	⁶⁰ Co	9.88E-01	pCi/L	2.87E+00	U	5.18E+00
CP10140401R4	WM-183 Coil 658	4AC40	RADS	Gamma spectroscopy	⁶⁰ Co	1.93E+00	pCi/L	3.58E+00	U	4.91E+00
CP10140101R4	WM-183 Coil 639	4AC31	RADS	Gamma spectroscopy	¹³⁴ Cs	4.06E-03	pCi/L	8.77E-01	U	3.56E+00
CP10140401R4	WM-183 Coil 658	4AC40	RADS	Gamma spectroscopy	¹³⁴ Cs	4.07E-03	pCi/L	8.67E-01	U	3.53E+00
CP10140501R4	WM-183 Coil 659	4AC43	RADS	Gamma spectroscopy	¹³⁴ Cs	2.37E-02	pCi/L	8.45E-01	U	3.36E+00
CP10140201R4	WM-183 Coil 643	4AC34	RADS	Gamma spectroscopy	¹³⁴ Cs	3.46E+00	pCi/L	4.48E+00	U	3.49E+00
CP10140301R4	WM-183 Coil 648	4AC37	RADS	Gamma spectroscopy	¹³⁴ Cs	3.63E+00	pCi/L	4.69E+00	U	3.66E+00
CP10140301R4	WM-183 Coil 648	4AC37	RADS	Gamma spectroscopy	¹³⁷ Cs	2.41E+00	pCi/L	3.54E+00	U	4.10E+00
CP10140201R4	WM-183 Coil 643	4AC34	RADS	Gamma spectroscopy	¹³⁷ Cs	2.88E+00	pCi/L	3.81E+00	U	4.68E+00
CP10140401R4	WM-183 Coil 658	4AC40	RADS	Gamma spectroscopy	¹³⁷ Cs	5.17E+00	pCi/L	1.35E+00		4.43E+00
CP10140101R4	WM-183 Coil 639	4AC31	RADS	Gamma spectroscopy	¹³⁷ Cs	5.95E+00	pCi/L	1.18E+00		4.93E+00
CP10140501R4	WM-183 Coil 659	4AC43	RADS	Gamma spectroscopy	¹³⁷ Cs	6.39E+00	pCi/L	1.07E+00		4.55E+00
CP10140301R4	WM-183 Coil 648	4AC37	RADS	Gamma spectroscopy	¹⁵² Eu	-4.83E+00	pCi/L	7.91E+00	U	1.26E+01
CP10140201R4	WM-183 Coil 643	4AC34	RADS	Gamma spectroscopy	¹⁵² Eu	-2.18E+00	pCi/L	5.07E+00	U	1.23E+01
CP10140101R4	WM-183 Coil 639	4AC31	RADS	Gamma spectroscopy	¹⁵² Eu	-1.89E+00	pCi/L	4.91E+00	U	1.29E+01
CP10140501R4	WM-183 Coil 659	4AC43	RADS	Gamma spectroscopy	¹⁵² Eu	-7.52E-01	pCi/L	3.59E+00	U	1.24E+01
CP10140401R4	WM-183 Coil 658	4AC40	RADS	Gamma spectroscopy	¹⁵² Eu	-4.29E-01	pCi/L	3.26E+00	U	1.24E+01
CP10140301R4	WM-183 Coil 648	4AC37	RADS	Gamma spectroscopy	¹⁵⁴ Eu	-1.15E+00	pCi/L	3.42E+00	U	1.01E+01
CP10140201R4	WM-183 Coil 643	4AC34	RADS	Gamma spectroscopy	¹⁵⁴ Eu	-9.89E-01	pCi/L	3.15E+00	U	9.71E+00
CP10140501R4	WM-183 Coil 659	4AC43	RADS	Gamma spectroscopy	¹⁵⁴ Eu	2.33E-01	pCi/L	2.44E+00	U	1.02E+01
CP10140401R4	WM-183 Coil 658	4AC40	RADS	Gamma spectroscopy	¹⁵⁴ Eu	3.63E-01	pCi/L	2.57E+00	U	1.02E+01
CP10140101R4	WM-183 Coil 639	4AC31	RADS	Gamma spectroscopy	¹⁵⁴ Eu	7.01E-01	pCi/L	2.91E+00	U	1.00E+01
CP10140401R4	WM-183 Coil 658	4AC40	RADS	Gamma spectroscopy	¹⁵⁵ Eu	-3.55E+00	pCi/L	8.09E+00	U	1.83E+01
CP10140201R4	WM-183 Coil 643	4AC34	RADS	Gamma spectroscopy	¹⁵⁵ Eu	-1.18E+00	pCi/L	5.55E+00	U	1.84E+01
CP10140301R4	WM-183 Coil 648	4AC37	RADS	Gamma spectroscopy	¹⁵⁵ Eu	2.52E+00	pCi/L	7.09E+00	U	1.87E+01
CP10140101R4	WM-183 Coil 639	4AC31	RADS	Gamma spectroscopy	¹⁵⁵ Eu	4.36E+00	pCi/L	9.00E+00	U	1.84E+01
CP10140501R4	WM-183 Coil 659	4AC43	RADS	Gamma spectroscopy	¹⁵⁵ Eu	1.24E+01	pCi/L	1.78E+01	U	1.88E+01

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Table E-2. (continued).

Field Sample ID	Location	Lab Sample ID	Analysis Type	Analysis	Compound	Result	Units	Uncertainty	Validator Flag ^a	MDA
CP10140201R4	WM-183 Coil 643	4AC34	RADS	Gamma spectroscopy	⁵⁴ Mn	-2.69E+00	pCi/L	3.71E+00	U	3.99E+00
CP10140401R4	WM-183 Coil 658	4AC40	RADS	Gamma spectroscopy	⁵⁴ Mn	-2.45E+00	pCi/L	3.46E+00	U	3.98E+00
CP10140301R4	WM-183 Coil 648	4AC37	RADS	Gamma spectroscopy	⁵⁴ Mn	-1.13E+00	pCi/L	3.44E+00	U	3.97E+00
CP10140501R4	WM-183 Coil 659	4AC43	RADS	Gamma spectroscopy	⁵⁴ Mn	-7.47E-01	pCi/L	3.50E+00	U	4.05E+00
CP10140101R4	WM-183 Coil 639	4AC31	RADS	Gamma spectroscopy	⁵⁴ Mn	-7.42E-01	pCi/L	3.43E+00	U	3.93E+00
CP10140201R4	WM-183 Coil 643	4AC34	RADS	Gamma spectroscopy	⁹⁴ Nb	-5.33E-01	pCi/L	1.28E+00	U	3.33E+00
CP10140501R4	WM-183 Coil 659	4AC43	RADS	Gamma spectroscopy	⁹⁴ Nb	-2.59E-02	pCi/L	7.34E-01	U	3.30E+00
CP10140301R4	WM-183 Coil 648	4AC37	RADS	Gamma spectroscopy	⁹⁴ Nb	3.90E-01	pCi/L	1.14E+00	U	3.38E+00
CP10140101R4	WM-183 Coil 639	4AC31	RADS	Gamma spectroscopy	⁹⁴ Nb	1.47E+00	pCi/L	2.28E+00	U	3.43E+00
CP10140401R4	WM-183 Coil 658	4AC40	RADS	Gamma spectroscopy	⁹⁴ Nb	1.76E+00	pCi/L	2.59E+00	U	3.43E+00
CP10140201R4	WM-183 Coil 643	4AC34	RADS	Gamma spectroscopy	⁹⁵ Nb	-5.00E-01	pCi/L	1.32E+00	U	3.54E+00
CP10140401R4	WM-183 Coil 658	4AC40	RADS	Gamma spectroscopy	⁹⁵ Nb	-3.12E-01	pCi/L	1.14E+00	U	3.67E+00
CP10140301R4	WM-183 Coil 648	4AC37	RADS	Gamma spectroscopy	⁹⁵ Nb	6.55E-01	pCi/L	1.51E+00	U	3.67E+00
CP10140501R4	WM-183 Coil 659	4AC43	RADS	Gamma spectroscopy	⁹⁵ Nb	1.81E+00	pCi/L	2.82E+00	U	4.11E+00
CP10140101R4	WM-183 Coil 639	4AC31	RADS	Gamma spectroscopy	⁹⁵ Nb	2.43E+00	pCi/L	3.36E+00	U	3.57E+00
CP10140501R4	WM-183 Coil 659	4AC43	RADS	Gamma spectroscopy	²²⁶ Ra	-1.06E+02	pCi/L	1.59E+02	U	1.11E+02
CP10140301R4	WM-183 Coil 648	4AC37	RADS	Gamma spectroscopy	²²⁶ Ra	-6.32E+01	pCi/L	1.59E+02	U	1.12E+02
CP10140101R4	WM-183 Coil 639	4AC31	RADS	Gamma spectroscopy	²²⁶ Ra	-6.24E+01	pCi/L	1.59E+02	U	1.13E+02
CP10140201R4	WM-183 Coil 643	4AC34	RADS	Gamma spectroscopy	²²⁶ Ra	-5.90E+01	pCi/L	1.59E+02	U	1.14E+02
CP10140401R4	WM-183 Coil 658	4AC40	RADS	Gamma spectroscopy	²²⁶ Ra	-1.31E+01	pCi/L	2.87E+01	U	1.08E+02
CP10140301R4	WM-183 Coil 648	4AC37	RADS	Gamma spectroscopy	¹⁰³ Ru	-1.27E+00	pCi/L	2.19E+00	U	3.73E+00
CP10140201R4	WM-183 Coil 643	4AC34	RADS	Gamma spectroscopy	¹⁰³ Ru	-1.15E+00	pCi/L	2.02E+00	U	3.60E+00
CP10140101R4	WM-183 Coil 639	4AC31	RADS	Gamma spectroscopy	¹⁰³ Ru	-2.14E-01	pCi/L	1.02E+00	U	3.68E+00
CP10140401R4	WM-183 Coil 658	4AC40	RADS	Gamma spectroscopy	¹⁰³ Ru	8.53E-02	pCi/L	8.96E-01	U	3.73E+00
CP10140501R4	WM-183 Coil 659	4AC43	RADS	Gamma spectroscopy	¹⁰³ Ru	5.02E-01	pCi/L	1.44E+00	U	4.17E+00
CP10140201R4	WM-183 Coil 643	4AC34	RADS	Gamma spectroscopy	¹⁰⁶ Ru	-8.02E+00	pCi/L	1.56E+01	U	3.16E+01
CP10140501R4	WM-183 Coil 659	4AC43	RADS	Gamma spectroscopy	¹⁰⁶ Ru	-4.52E+00	pCi/L	1.15E+01	U	3.03E+01
CP10140301R4	WM-183 Coil 648	4AC37	RADS	Gamma spectroscopy	¹⁰⁶ Ru	-1.35E+00	pCi/L	8.78E+00	U	3.33E+01

Table E-2. (continued).

Field Sample ID	Location	Lab Sample ID	Analysis Type	Analysis	Compound	Result	Units	Uncertainty	Validator Flag ^a	MDA
CP10140401R4	WM-183 Coil 658	4AC40	RADS	Gamma spectroscopy	¹⁰⁶ Ru	1.87E+00	pCi/L	8.86E+00	U	3.12E+01
CP10140101R4	WM-183 Coil 639	4AC31	RADS	Gamma spectroscopy	¹⁰⁶ Ru	1.18E+01	pCi/L	2.03E+01	U	3.43E+01
CP10140101R4	WM-183 Coil 639	4AC31	RADS	Gamma spectroscopy	¹²⁵ Sb	-2.33E+00	pCi/L	4.90E+00	U	1.11E+01
CP10140501R4	WM-183 Coil 659	4AC43	RADS	Gamma spectroscopy	¹²⁵ Sb	-2.28E+00	pCi/L	4.80E+00	U	1.10E+01
CP10140301R4	WM-183 Coil 648	4AC37	RADS	Gamma spectroscopy	¹²⁵ Sb	2.39E+00	pCi/L	5.06E+00	U	1.16E+01
CP10140401R4	WM-183 Coil 658	4AC40	RADS	Gamma spectroscopy	¹²⁵ Sb	3.84E+00	pCi/L	6.48E+00	U	1.12E+01
CP10140201R4	WM-183 Coil 643	4AC34	RADS	Gamma spectroscopy	¹²⁵ Sb	7.89E+00	pCi/L	1.07E+01	U	1.11E+01
CP10140501R4	WM-183 Coil 659	4AC43	RADS	Gamma spectroscopy	²³⁵ U	-5.38E+00	pCi/L	9.64E+00	U	6.76E+00
CP10140101R4	WM-183 Coil 639	4AC31	RADS	Gamma spectroscopy	²³⁵ U	-3.66E+00	pCi/L	9.64E+00	U	6.87E+00
CP10140301R4	WM-183 Coil 648	4AC37	RADS	Gamma spectroscopy	²³⁵ U	-2.46E+00	pCi/L	9.63E+00	U	6.90E+00
CP10140201R4	WM-183 Coil 643	4AC34	RADS	Gamma spectroscopy	²³⁵ U	-1.84E+00	pCi/L	9.63E+00	U	6.95E+00
CP10140401R4	WM-183 Coil 658	4AC40	RADS	Gamma spectroscopy	²³⁵ U	-7.96E-01	pCi/L	1.74E+00	U	6.57E+00
CP10140101R4	WM-183 Coil 639	4AC31	RADS	Gamma spectroscopy	⁶⁵ Zn	-6.52E+00	pCi/L	8.40E+00	U	6.90E+00
CP10140401R4	WM-183 Coil 658	4AC40	RADS	Gamma spectroscopy	⁶⁵ Zn	-2.75E+00	pCi/L	4.40E+00	U	6.93E+00
CP10140501R4	WM-183 Coil 659	4AC43	RADS	Gamma spectroscopy	⁶⁵ Zn	-1.11E+00	pCi/L	2.73E+00	U	7.28E+00
CP10140201R4	WM-183 Coil 643	4AC34	RADS	Gamma spectroscopy	⁶⁵ Zn	1.26E-02	pCi/L	1.88E+00	U	7.76E+00
CP10140301R4	WM-183 Coil 648	4AC37	RADS	Gamma spectroscopy	⁶⁵ Zr	1.26E-02	pCi/L	1.82E+00	U	7.49E+00
CP10140401R4	WM-183 Coil 658	4AC40	RADS	Gamma spectroscopy	⁹⁵ Zr	-1.75E+00	pCi/L	3.12E+00	U	5.96E+00
CP10140301R4	WM-183 Coil 648	4AC37	RADS	Gamma spectroscopy	⁹⁵ Zr	7.19E-01	pCi/L	2.08E+00	U	6.24E+00
CP10140201R4	WM-183 Coil 643	4AC34	RADS	Gamma spectroscopy	⁹⁵ Zr	2.08E+00	pCi/L	3.58E+00	U	6.47E+00
CP10140501R4	WM-183 Coil 659	4AC43	RADS	Gamma spectroscopy	⁹⁵ Zr	2.85E+00	pCi/L	4.33E+00	U	6.14E+00
CP10140101R4	WM-183 Coil 639	4AC31	RADS	Gamma spectroscopy	⁹⁵ Zr	3.71E+00	pCi/L	5.30E+00	U	6.42E+00

a. Validator flags:

J = Estimated value

U = Analyte was analyzed for but was not detected.

MDA = Minimum detectable activity.

Appendix F

Reported Results for Waste Process Lines

Table F-1. Reported results for metals analyses conducted on waste process lines.

Field ID#	Lab ID#	Metal (µg/L)	Lab Flag ^a	Validation Flag									
Ag													
CP10040101XM	2BD46	2.00	U		6.10	U		4.30	U		0.40	U	
CP10040201XM	2BD47	2.00	U		6.10	U		4.30	U		0.40	B	
CP10040301XM*	2BD48	5.00	U		39.50	B		10.80	U		3.20	B	
CP10040401XM	2BD49	2.00	U		6.10	U		4.30	U		0.40	U	
CP10040501XM	2BD50	2.00	U		6.10	U		4.30	U		0.40	U	
CP10040601XM	2BD51	2.00	U		6.10	U		4.30	U		0.40	U	
CP10040701XM	2BD52	2.00	U		8.70	B		4.30	U		0.40	B	
CP10040801XM	2BD53	2.00	U		6.10	U		4.30	U		0.40	U	
CP10040901XM	2BD54	2.00	U		6.80	B		4.30	U		3.80	B	
Be													
CP10040101XM	2BD46	0.10	U		106.00			0.60	U		0.80	U	
CP10040201XM	2BD47	0.10	U		35.50			0.60	U		0.80	U	
CP10040301XM*	2BD48	0.25	U		1060.0			1.50	U		2.00	U	
CP10040401XM	2BD49	0.10	U		57.40			0.60	U		0.80	U	
CP10040501XM	2BD50	0.10	U		90.10			0.60	U		0.80	U	
CP10040601XM	2BD51	0.10	U		24.80	B		0.60	U		0.80	U	
CP10040701XM	2BD52	0.10	U		72.20			0.60	U		0.80	U	
CP10040801XM	2BD53	0.10	U		21.10	B		0.60	U		0.80	U	
CP10040901XM	2BD54	0.10	U		120.00			0.60	U		0.80	U	
Cr													
CP10040101XM	2BD46	3.90	B		3.30	B	U	39.90	N	J	0.08	U	
CP10040201XM	2BD47	7.90			1.40	B	U	53.20	N	J	0.08	U	
CP10040301XM*	2BD48	3.50	B		70.00			214.00	N	J	0.62	B	
CP10040401XM	2BD49	13.70			2.40	B	U	62.10	N	J	0.08	U	
CP10040501XM	2BD50	5.70	B		1.50	B	U	31.00	N	J	0.08	U	
CP10040601XM	2BD51	8.70			1.50	B	U	39.00	N	J	0.08	U	
CP10040701XM	2BD52	5.30	B		0.70	U		41.40	N	J	0.08	U	
CP10040801XM	2BD53	5.00	B		0.90	B	U	22.70	N	J	0.08	U	
CP10040901XM	2BD54	11.40			4.70	B		72.10	N	J	0.08	U	
K													
CP10040101XM	2BD46	25.30	U		16.50	B		2.60			4.00	U	

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Table F-1. (continued).

Field ID#	Lab ID#	Metal (µg/L)	Lab Flag ^a	Validation Flag									
CP10040201XM	2BD47	25.30	U		8.00	U		1.70			4.00	U	
CP10040301XM*	2BD48	203.00	B		118.00	B		7.00			10.00	U	
CP10040401XM	2BD49	25.30	U		9.40	B		2.20			4.00	U	
CP10040501XM	2BD50	25.30	U		14.60	B		1.10			4.00	U	
CP10040601XM	2BD51	25.30	U		8.00	U		1.20			4.00	U	
CP10040701XM	2BD52	28.60	B		18.30	B		1.00			4.00	U	
CP10040801XM	2BD53	25.30	U		8.60	B		0.70	B		4.00	U	
CP10040901XM	2BD54	32.90	B		11.80	B		8.30			4.00	U	
		Na			Ni			Pb			Sb		
CP10040101XM	2BD46	130.00			2.40	B		4.80	U		5.10	U, N	UJ
CP10040201XM	2BD47	28.10			4.40	B		4.80	U		5.10	U, N	UJ
CP10040301XM*	2BD48	386.00			14.20	B		12.00	U		12.80	U, N	UJ
CP10040401XM	2BD49	41.00			9.10	B		4.80	U		5.10	U, N	UJ
CP10040501XM	2BD50	144.00			4.20	B		4.80	U		5.10	U, N	UJ
CP10040601XM	2BD51	26.70			5.20	B		4.80	U		5.10	U, N	UJ
CP10040701XM	2BD52	126.00			5.10	B		4.80	U		5.10	U, N	UJ
CP10040801XM	2BD53	21.70			2.30	B		4.80	U		5.10	U, N	UJ
CP10040901XM	2BD54	120.00			8.10	B		4.80	U		5.10	U, N	UJ
		Se			Tl			V			Zn		
CP10040101XM	2BD46	3.00	U		3.80	U		1.50	U		15.80		
CP10040201XM	2BD47	3.00	U		3.80	U		1.50	U		10.40		
CP10040301XM*	2BD48	7.50	U		9.50	U		3.80	U		715.00		
CP10040401XM	2BD49	3.00	U		3.80	U		1.50	U		22.90		
CP10040501XM	2BD50	3.00	U		3.80	U		1.50	U		15.30		
CP10040601XM	2BD51	3.00	U		3.80	U		1.50	U		8.90		
CP10040701XM	2BD52	3.00	U		3.80	U		1.50	U		9.50		
CP10040801XM	2BD53	3.00	U		3.80	U		1.50	U		4.80		
CP10040901XM	2BD54	3.00	U		3.80	U		1.50	U		10.30		